FUTURE FISHERIES IMPROVEMENT PROGRAM
GRANT APPLICATION
(please fill in the highlighted areas)

I. APPLICANT INFORMATION

A. Applicant Name: Heather Degeest, Helena District Ranger

B. Mailing Address: 2880 Skyway Drive

C. City: Helena State: MT Zip: 59602

Telephone: 406-495-3924 E-mail: hdegeest@fs.fed.us

D. Contact Person: George Liknes, Helena National Forest Fisheries Program Manager

Address if different from Applicant: 1569 Highway 200

City: Lincoln State: MT Zip: 59639

Telephone: 406-362-7003 E-mail: georgealiknes@fs.fed.us

E. Landowner and/or Lessee Name (if other than Applicant): Helena National Forest, Helena Ranger District

Mailing Address: 2880 Skyway Drive

City: Helena State: MT Zip: 59602

Telephone: 406-495-3924 E-mail: hdegeest@fs.fed.us

II. PROJECT INFORMATION*

A. Project Name: Golden Anchor Bridge & Ontario Creek Road Relocation Floodplain Restoration Project

River, stream, or lake: Little Blackfoot River & Ontario Creek

Location: Township: 8N Range: 7W Section: 12

Latitude: (Bridge) 46.463407 Longitude: -112.420778 *within project (decimal degrees)*

(Ontario Road) 46.457233 -112.418556

County: Powell County

B. Purpose of Project:

Reduce sediment delivery and restore floodplain function to the Little Blackfoot River.

C. Brief Project Description:

The proposed project will restore a section of the Little Blackfoot River floodplain, and eliminate multiple chronic sources of anthropogenic fine sediment to a TMDL-listed reach of the river. The sediment sources include an existing native-material ford across the Little Blackfoot, as well as a roughly ¼-mile segment of road that blocks the river's floodplain and includes three inadequate crossing structures. Fish habitat, including westslope cutthroat and bull trout occupied habitat, continues to degrade from chronic road sedimentation and direct vehicular disturbance to spawning/rearing habitat associated with the ford crossing. Two rounds of eDNA sampling in 2015 in this area and in upstream locations identified positive samples for bull trout presence.

The Ontario Creek road (FSR 123) crosses the Little Blackfoot River approximately one mile upstream of the future bridge crossing. Unlike the bridge location, the reach of the river crossed by FSR 123 has a broad, highly functioning floodplain where an actively meandering channel has repeatedly come in conflict with the road, which is acting as a dam across the floodplain. Since the construction of the road, the river has re-aligned itself and no longer flows directly through the crossing structures, but instead flows directly against road fill during peak runoff season.

The project consists of 3 phases; 1) construction of the Golden Anchor Bridge across the Little Blackfoot River, 2) relocation of Forest Service Road 123 accessing Ontario Creek to a new route to minimize impacts to the floodplain and riparian area while maintaining existing access, and 3) the removal of the existing Ontario Creek Road from the Little Blackfoot River floodplain, including three crossings structures on the Little Blackfoot River and one crossing on Ontario Creek, and restoration of the riparian area. This request is for funding the third phase—restoration of a section of Little Blackfoot River and floodplain.

Funds have been secured for design and construction of the bridge and restoration of the existing Little Blackfoot River ford crossing located on Forest Service Road (FSR) 4100. An approved design is slated for construction in 2016. Funding has also been acuired to construct a connecting route between FSR 4100 and FSR 123 above the floodplain on the east side of the Little Blackfoot River, allowing removal of the section of road across the floodplain. Much of the new connecting route would use an existing road. Upon completion of the road reroute, the Little Blackfoot River crossing and floodplain portion of FSR 123 will be removed and the single river crossing on FSR 4100 provided by the Golden Anchor bridge would allow access to both FSR 4100 and FSR 123.

The segment of FSR 123 crossing the Little Blackfoot River floodplain is an ongoing maintenance burden, a direct source of chronic fine sediment to the Little Blackfoot River, and disrupts the natural fluvial/floodplain processes in that area. The funds requested in this application will be used soley for removal of the road prism from the floodplain, restoration of the floodplain and channels in this location, and revegetation.

D. Length of stream or size of lake that will be treated:

Roughly 30 linear feet of low-flow stream channel and three 30-foot segments of high-flow channel would be restored across a floodplain width of approximately ¼ mile. Roughly one acre of floodplain would be restored.

E. Project Budget:

Grant Request (Dollars): $ 50,000.00

Contribution by Applicant (Dollars): $ 340,675.00 In-kind $ 0.00

(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): $ 125,000.00 In-kind $ 0.00

(attach verification - See page 2 budget template)

Total Project Cost: $ 515,675.00

F. Attach itemized (line item) budget – see template

G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support and fish biologist support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire (fwp.mt.gov/habitat/futurefisheries/supplement2.doc).

H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

III. PROJECT BENEFITS*

A. What species of fish will benefit from this project?:

The primary target species are westslope cutthroat and bull trout. Other species present include brook and brown trout as well as slimy sculpin.

B. How will the project protect or enhance wild fish habitat?:

This project addresses impairments to habitat by eliminating chronic sources of fine sediment delivery and restoring floodplain function, allowing natural lateral and downstream channel migration and full connectivity. Resolving those problems will restore riparian and instream habitat, improving conditions for wild fish.

C. Will the project improve fish populations and/or fishing? To what extent?:

The purpose of the project is to benefit instream and floodplain habitat conditions, which over the long term would be expected to improve fish populations.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

Over the long term with a reduction of sediment delivery to the Little Blackfoot River, greater egg survival may be realized and a corresponding increase in wild trout population levels may occur. We anticipate in the short term that public fishing opportunity for wild fish will be maintained at existing levels.

E. The project agreement includes a 20-year maintenance commitment. If you are unable to meet this commitment, please explain why:

N/A.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

The causes of habitat degradation include a floodplain-spanning road segment with inadequate crossing structures, and a native-material ford. The project would address these issues by re-routing the road over a bridge and eliminating the ford and the segment of road impacting the channel and floodplain, and restoring the stream channel and floodplain in those locations.

G. What public benefits will be realized from this project?:

Improved access across the Little Blackfoot River, reduced delivery of fine sediment to a TMDL-listed stream and river system occupied by native westslope cutthroat and bull trout as well as non-native salmonids and sculpin, and reduced road maintenance costs associated with lateral migration of the stream conflicting with the current road location.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

We do not anticipate that any part of this project including the portion of the project we are requesting Future Fisheries funding for would have any adverse effects on the water or property rights of any adjacent landowner.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

This proposed project would have no relation to any commercial recreational use of the Little Blackfoot River or Ontario Creek.

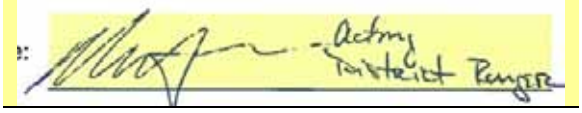
J. Is this project associated with the reclamation of past mining activity?:

No. The existing ford is a crossing site and past access/haul route for mines on the east side of the Little Blackfoot River including the Kimball and Golden Anchor mines. However, no portion of the project area is located on an actual mine site, or in the vicinity of any mining reclamation.

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:  Date: 11/25/2015

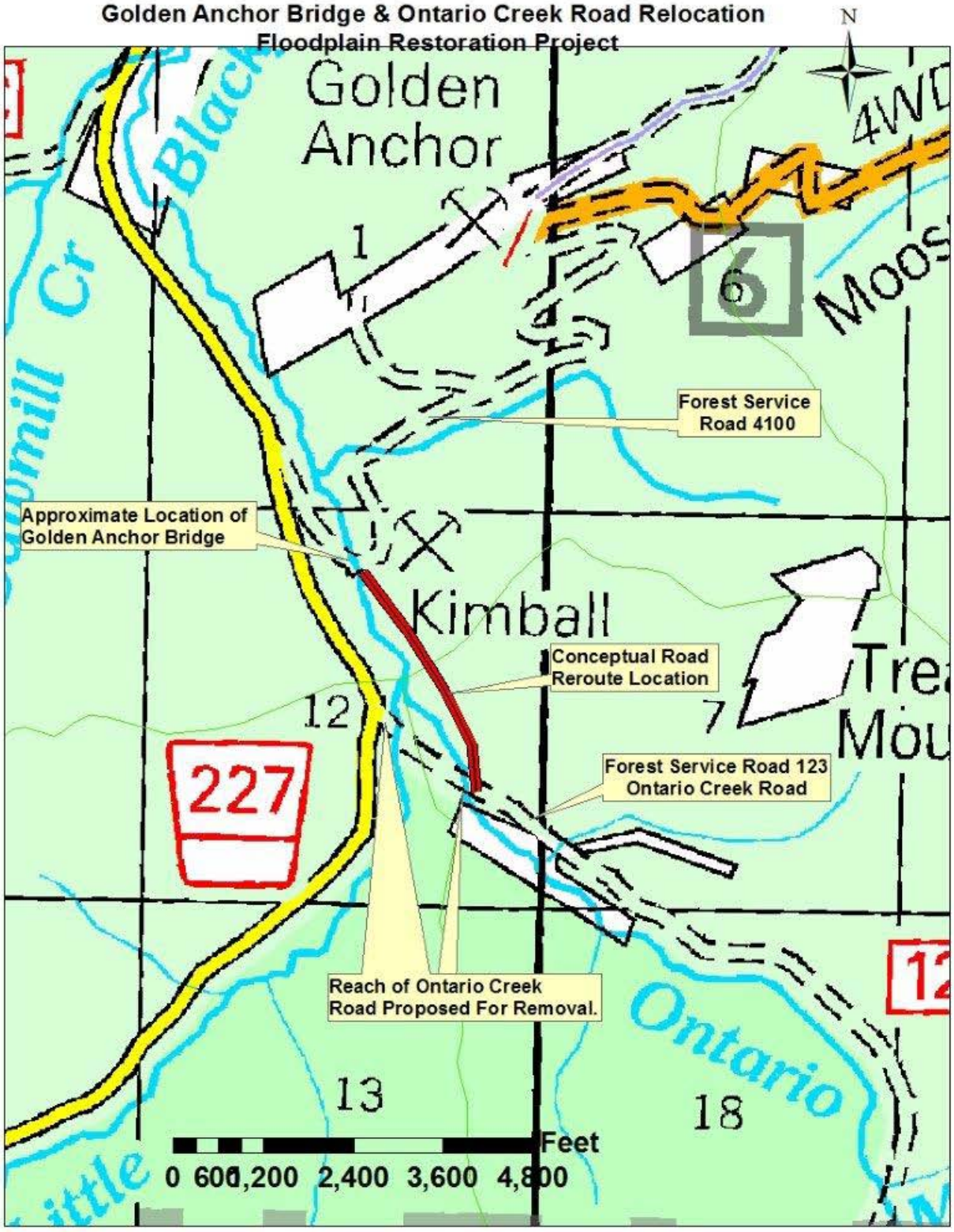
Sponsor (if applicable):

***Highlighted boxes will automatically expand.**

Mail To: **Montana Fish, Wildlife & Parks**
Habitat Protection Bureau
PO Box 200701
Helena, MT 59620-0701

E-mail To: **Michelle McGree**
mmcgree@mt.gov
(electronic submissions MUST be signed)

Incomplete or late applications will be returned to applicant.
Applications may be rejected if this form is modified.
*****Applications may be submitted at anytime, but must be received by the Future Fisheries Program office in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.*****


Golden Anchor Bridge & Ontario Creek Road Relocation
Floodplain Restoration Project
N
Golden
Anchor
4WD
1
6
Moos
Forest Service
Road 4100
Approximate Location of
Golden Anchor Bridge
Kimball
Conceptual Road
Reroute Location
12
7
Trea
Mou
227
Forest Service Road 123
Ontario Creek Road
Reach of Ontario Creek
Road Proposed For Removal.
Ontario
13
18
Feet
0 600 1,200 2,400 3,600 4,800

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

Both tables must be completed or the application will be returned

WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FUTURE FISHERIES REQUEST	IN-KIND SERVICES**	IN-KIND CASH	TOTAL
Personnel								
Survey & Design for Road	1	Survey & Design	$20,000.00	$ 20,000.00			20,000.00	$ 20,000.00
Survey & Design for Bridge	1	Survey & Design	$22,475.00	$ 22,475.00			22,475.00	$ 22,475.00
Permitting/CE - Wetland Delineation	1	Permitting	$5,000.00	$ 5,000.00			5,000.00	$ 5,000.00
Oversight Estimate - Bridge	1	Construction Oversight - 50 Hrs @ $120/hr	$6,000.00	$ 6,000.00			6,000.00	$ 6,000.00
Labor				$ -				$ -
			Sub-Total	$ 53,475.00	$ -	$ -	$ 53,475.00	$ 53,475.00
Travel								
Mileage	1		$2,500.00	$ 2,500.00			2,500.00	$ 2,500.00
Per diem				$ -				$ -
			Sub-Total	$ 2,500.00	$ -	$ -	$ 2,500.00	$ 2,500.00
Construction Materials* **								
Road Relocation Contracting	1		$200,000.00	$ 200,000.00			200,000.00	$ 200,000.00
Golden Anchor Bridge Contracting	1		$209,500.00	$ 209,500.00			209,500.00	$ 209,500.00
Ontario Road Obliteration and floodplain restoration	1		$50,000.00	$ 50,000.00	50,000.00			$ 50,000.00
				$ -				$ -
			Sub-Total	$ 459,500.00	$ 50,000.00	$ -	$ 409,500.00	$ 459,500.00
Equipment								
Supplies	1	lay out staking e	$200.00	$ 200.00			200.00	$ 200.00
				$ -				$ -
			Sub-Total	$ 200.00	$ -	$ -	$ 200.00	$ 200.00
Mobilization								
Included in Construction Estimate				$ -				$ -

(Revised 11/30/2015)

			Sub-Total	$ -	$ -	$ -	$ -	$ -
			TOTALS	$ 515,675.00	$ 50,000.00	$ -	$ 465,675.00	$ 515,675.00

*Units = feet, hours, inches, lump sum, etc.

**Can include in-kind materials. Justification for in-kind labor (e.g. hourly rates used for calculations). Describe here or in text.

***The Future Fisheries Review Panel recommends a maximum fencing cost of $1.50 per foot

MATCHING CONTRIBUTIONS (do not include requested funds)

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL	Verified? (Y/N)
USFS - Golden Anchor Bridge - Survey & Design	$ -	$ 22,475.00	$ 22,475.00	Y
USFS - Golden Anchor Bridge - Bridge Construction	$ -	$ 84,500.00	$ 84,500.00	Y
USFS -Golden Anchor Bridge - Travel	$ -	$ 2,500.00	$ 2,500.00	Y
USFS - Golden Anchor Bridge - Supplies	$ -	$ 200.00	$ 200.00	Y
MT DNRC - Golden Anchor Bridge - Forest in Focus Funding	$ -	$ 125,000.00	$ 125,000.00	Y
USFS - Ontario Creek Road Survey & Design	$ -	$ 20,000.00	$ 20,000.00	Y
USFS - Ontario Creek Road Relocation Construction	$ -	$ 206,000.00	$ 206,000.00	Y
USFS - Ontario Creek Road Wetland Delineation	$ -	$ 5,000.00	$ 5,000.00	Y
	$ -	$ -	$ -	
	$ -	$ -	$ -	
TOTALS	$ -	$ 465,675.00	$ 465,675.00	

P.O. Box 25
Anaconda, MT 59711
Phone: (406) 563-7435
E-mail: jlindstrom@mt.gov

November 30, 2015

Montana Fish, Wildlife & Parks
Future Fisheries Program, Attn: Michelle McGree
PO Box 200701
Helena, MT 59620

RE: Support for Golden Anchor Bridge and Ontario Creek Road Relocation and Floodplain Restoration Project

I would like express my full support for a funding request submitted by the Helena National Forest for a road relocation project in the upper Little Blackfoot River drainage. Montana Fish, Wildlife and Parks has identified the Little Blackfoot River as a top priority for aquatic restoration in the Upper Clark Fork River Basin. The upper Little Blackfoot watershed is recognized as a native westslope cutthroat trout stronghold in the Upper Clark Fork. The drainage also supports a severely depressed population of bull trout, a threatened species under the Endangered Species Act. Protecting and improving water quality and habitat to benefit these and other aquatic species is a top priority for the department and our partners.

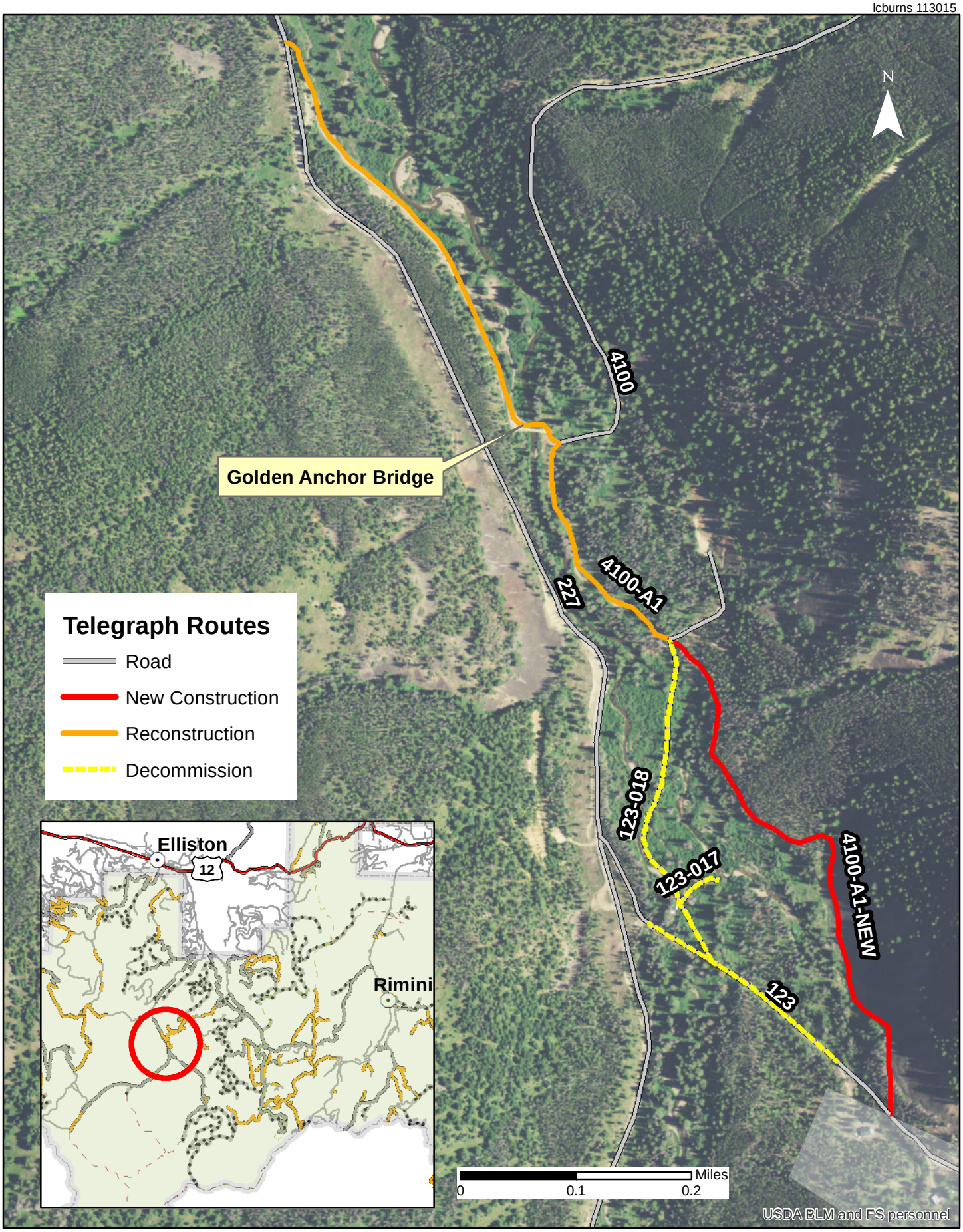
The overall project proposed by the Forest Service would result in the construction of a new bridge over the Little Blackfoot River at the crossing of forest road #4100, as well as re-route the lower segment of forest road #123 leading up Ontario Creek. Currently the crossing of the Little Blackfoot River on forest road #4100 is a large ford. This ford has lead to the degradation of aquatic habitat for cold water fish species. Additionally, the existing portion of forest road #123 that is within the floodplain of the Little Blackfoot River has caused significant issues for fish passage and road maintenance, as well as degraded spawning and rearing habitat for native salmonid species. Removal of this segment of road and re-routing it down to the proposed bridge on forest road #4100 would greatly benefit fluvial processes and aquatic habitat in this reach of the Little Blackfoot River. Don't hesitate to contact me with any questions you may have regarding this project.

Sincerely,

Jason Lindstrom
Montana Fish, Wildlife & Parks
Fisheries Biologist – Upper Clark Fork

Golden Anchor/ Ontario Road Relocation

lcburns 113015



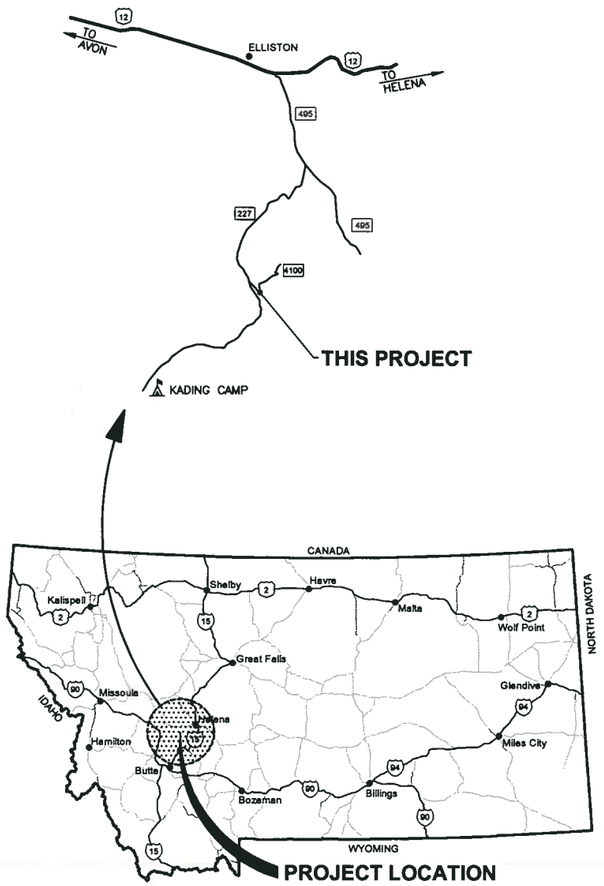
GOVERNMENT FURNISHED
-EMBANKMENT SOURCE
-WASTE SITE

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION ONE

CONSTRUCTION PLANS FOR

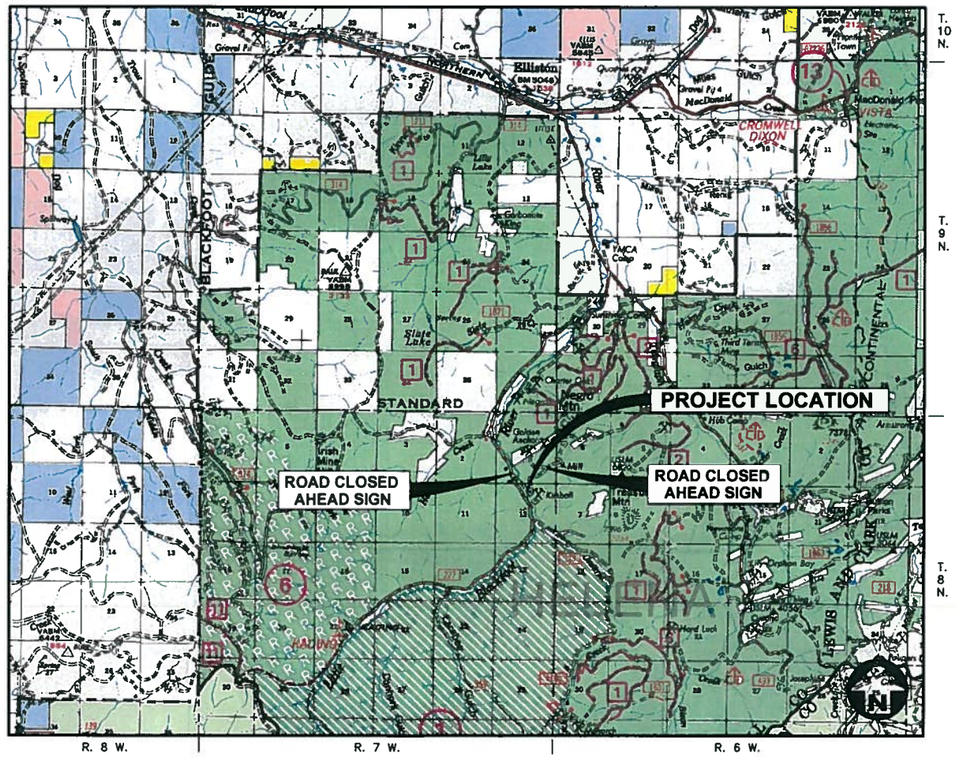
GOLDEN ANCHOR BRIDGE
ROAD NO. 4100 - M.P. 0.10

HELENA NATIONAL FOREST
HELENA RANGER DISTRICT
POWELL COUNTY, MONTANA



LOCATION MAP
NOT TO SCALE

SECTION 12, TOWNSHIP 8 NORTH, AND RANGE 7 WEST



VICINITY MAP
NOT TO SCALE

SHEET INDEX

PROJECT: 1-15157
DATE: MAY 26, 2015

APPROVED:
DIRECTOR OF ENGINEERING
NORTHERN REGION
6/3/15 DATE

APPROVED:
for FOREST SUPERVISOR
HELENA NATIONAL FOREST
6/3/15 DATE

APPROVED:
FOREST ENGINEER
HELENA NATIONAL FOREST
6/3/15 DATE

RECOMMENDED:
HELENA DISTRICT RANGER
HELENA NATIONAL FOREST
6/3/15 DATE

PLANS PREPARED BY:
JONATHAN WEAVER, E.I.
RYAN ELLIOTT, P.E.

QA/QC BY:
JEREMIAH THEYS, P.E.

JEREMIAH JAMES THEYS 15402 P.E. 6/3/15 CENSED PROFESSIONAL ENGINEER

DRAWING NO. R2106

NOTE:
DRAWING SCALE IS ONLY ACCURATE WHEN PLANS ARE PLOTTED ON 11" X 17" (TABLOID)-SIZED PAPER.

GreatWest engineering
2501 BELT VIEW DRIVE
HELENA, MT 59601
(406)449-8627

NO.	REVISION DESCRIPTION	BY	DATE
1			
2			
3			
4			
5			
6			

SET NO.

SHEET NO. 1

F:\1-15157-HNF Golden Anchor Bridge Update\CADD 1-1515?\Sheets\1-15157-01-Cover.dwg

GENERAL NOTES:

SPECIFICATIONS:
MATERIALS AND CONSTRUCTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS, FP-03 (U.S. CUSTOMARY UNITS).

DESIGN:
DESIGNS SHALL CONFORM TO HL-93 LIVE LOADING IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6th EDITION, W/CURRENT INTERIMS.

DESIGN DATA AS FOLLOWS:
- HL-93 LIVE LOAD
- TRUCK IMPACT = 33%
- NO SUPERIMPOSED DEAD LOAD REQUIRED FOR DESIGN
- ASSUME MODERATE CORROSIVE CONDITIONS FOR TENSILE STRESS LIMITS AT SERVICE LIMIT STATE AFTER LOSSES.
- EITHER APPROXIMATE OR REFINED METHODS FOR ESTIMATING PRESTRESS LOSSES MAY BE USED.

HYDROLOGY & HYDRAULICS:
THIS STRUCTURE WAS DESIGNED TO PASS THE 100-YEAR FLOOD EVENT OF 1480 CFS WITH A MINIMUM OF TWO FEET OF FREEBOARD. FOR THIS SITE, THE 2-YEAR AND THE 10-YEAR EVENTS WERE ESTIMATED AT 468 CFS AND 882 CFS, RESPECTIVELY.

EROSION CONTROL PLAN:
CONTRACTOR SHALL SUBMIT AN EROSION CONTROL PLAN TO THE C.O. FOR REVIEW PRIOR TO BEGINNING ANY WORK. PROVIDE METHODS TO MINIMIZE DISTURBANCE IN THE STREAM BED AND TO PREVENT RUNOFF FROM THE CONSTRUCTION SITE FROM ENTERING DIRECTLY INTO THE STREAM. CONSTRUCT TEMPORARY MEANS TO DIVERT THE FLOW OF THE LIVE STREAM AS NECESSARY TO PERFORM THE WORK. DO NOT PUMP WATER FROM FOUNDATION EXCAVATIONS INTO THE LIVE STREAM.

DEWATERING PLAN:
IF NECESSARY, CONTRACTOR TO SUBMIT DEWATERING PLAN TO THE CO FOR REVIEW PRIOR TO BEGINNING ANY WORK.

CLEARING AND GRUBBING:
CLEARING AND GRUBBING SHALL BE INCIDENTAL TO THE PROJECT AND WILL NOT BE PAID FOR AS A SEPARATE BID ITEM. CONTRACTOR SHALL DISPOSE OF CLEARING AND GRUBBING MATERIAL PER FSSS 203.

CONCRETE FOR GRADE BEAMS, WINGWALLS & END DIAPHRAGMS :
USE CLASS A(AE) OR CLASS C(AE) CONCRETE, F'C = 4,000 PSI AT 28 DAYS WITH AN ENTRAINED AIR CONTENT OF 5% ± 1%. FINISH CONCRETE WITH A CLASS 1 – ORDINARY SURFACE FINISH. ALL CONCRETE SHALL BE MADE IN ACCORDANCE WITH AN APPROVED MIX DESIGN. CHAMFER ALL EXPOSED EDGES OF CONCRETE AND FILLET ALL RE-ENTRANT ANGLES 3/4" UNLESS NOTED OTHERWISE.

PRESTRESSED CONCRETE:
PRESTRESSED CONCRETE SHALL BE CLASS "P". CONCRETE STRENGTH SHALL BE DETERMINED BY THE PRESTRESSED BEAM FABRICATOR, BUT, SHOULD ATTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5500 PSI, (F'C = 5500 PSI). THE TOP 2-INCHES OF THE PRESTRESSED BEAMS SHALL BE AIR ENTRAINED 5% ± 1%.

REINFORCING STEEL:
ALL NON-PRESTRESSED REINFORCING SHALL BE OF THE DEFORMED BAR TYPE CONFORMING TO AASHTO M31 (ASTM A615), GRADE 60. CONCRETE CLEAR COVER SHALL BE 3" UNLESS SHOWN OTHERWISE ON THE PLANS. BENDING AND SPLICING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI 315.

PRESTRESSING STEEL:
USE PRESTRESSING STEEL OF LOW RELAXATION PRESTRESSING STRAND CONFORMING TO AASHTO M203, GRADE 270.

PRESTRESSING CONCRETE BEAMS:
PRIOR TO CASTING ANY PRESTRESSED MEMBERS, CALCULATIONS AND SHOP DRAWINGS AND COMPLETE DETAILS OF THE METHOD, MATERIALS AND EQUIPMENT PROPOSED FOR USE IN THE PRESTRESSING OPERATIONS SHALL BE SUBMITTED A MINIMUM OF 21 DAYS IN ADVANCE OF PLANNED CONSTRUCTION AND SHALL BEAR THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MONTANA.

FINISHING CONCRETE BEAMS:
THE EXTERIOR FACE OF EXTERIOR BEAMS SHALL BE GIVEN A RUBBED FINISH. A CONCRETE CLASS A(E) GRAY EPOXY MORTAR USING AASHTO M235 CLASS II EPOXY RESIN ADHESIVE MAY BE USED IN LIEU OF THE SPECIFIED SAND CEMENT MORTAR TO REDUCE CURING TIME. THE EPOXY MORTAR SHALL BE RUBBED WITH CEMENT PRIOR TO HARDENING. THE ENDS OF THE BEAMS SHALL HAVE ALL HOLES OR ACCEPTABLE ROCK POCKETS PATCHED AND STRANDS CUT OFF FLUSH OR BURNED BACK. APPLY SILANE SEALER TO CONCRETE BEAMS AT MANUFACTURING PLANT. THE TOPS OF BEAMS SHALL BE GIVEN A ROUGH BROOM FINISH PERPENDICULAR TO THE CENTERLINE OF THE ROADWAY, SEE NOTES ON SHEET 4.

FABRICATION, TRANSPORT, AND INSTALLATION OF PRESTRESSED CONCRETE BEAMS:
BEAMS SHALL BE ERECTED WITH A VERTICAL VARIATION OF NO MORE THAN ⅜" AT CENTERLINE OF BEARING (AT DRIVING SURFACE) AND NO MORE THAN ⅝" BETWEEN ADJACENT DECK SURFACES ALONG THE LENGTH OF THE BEAMS. AFTER BEAM ERECTION, PRIOR TO GROUTING KEYWAYS, CONTRACTOR SHALL PROVIDE MEASUREMENTS ALONG THE BEAM FLANGE JOINTS AT 10' O.C. INDICATING THE VERTICAL DIFFERENCE BETWEEN ADJACENT BEAMS AND SUPPLY THIS INFORMATION TO THE C.O. CONTRACTOR SHALL NOT PROCEED WITH GROUTING KEYWAYS OR ANY LEVELING PROCEDURES UNTIL THE C.O. HAS REVIEWED AND EVALUATED THE MEASUREMENTS FOR TOLERANCES OR OTHER CAMBER/ERECTION INCONSISTENCIES. IF CAMBER ADJUSTMENT/LEVELING IS DETERMINED BY THE C.O. TO BE NEEDED, CONTRACTOR SHALL SUBMIT CAMBER ADJUSTMENT/LEVELING PROCEDURE FROM THE MANUFACTURER. ANY CAMBER ADJUSTMENT/LEVELING WORK AUTHORIZED BY THE C.O. MUST BE DIRECTED BY A REPRESENTATIVE OF THE MANUFACTURER. ANY DAMAGE TO THE BEAMS DURING ERECTION MUST BE IMMEDIATELY IDENTIFIED TO THE C.O. NO REPAIRS SHALL BE IMPLEMENTED UNTIL AUTHORIZED BY THE C.O.

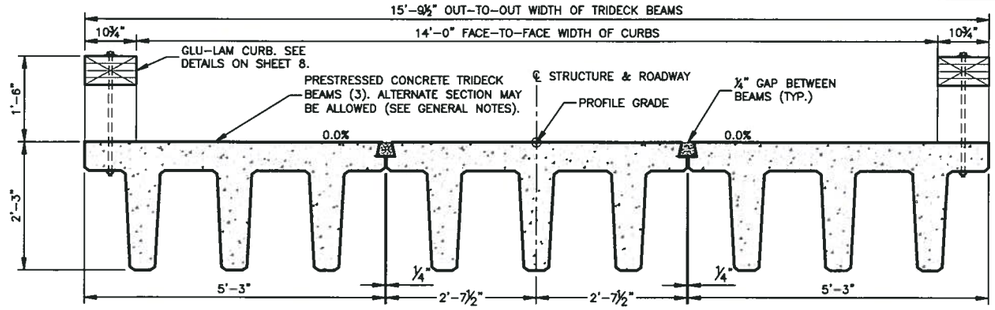
PAINTING OF WELD TIE CONNECTIONS AND GUARD ANGLES:
IN LIEU OF GALVANIZING, ALL GUARD ANGLES AND WELD TIES MAY BE FIELD PAINTED WITH ONE PRIMER COAT AND TWO FIELD COATS. THE FIELD COATS SHALL BE ALUMINUM PAINT CONFORMING TO AASHTO M69, TYPE II.

HARDWARE AND STRUCTURAL STEEL:
ALL STRUCTURAL STEEL AND HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M183 GRADE 36, WITH NUTS AND BOLTS CONFORMING TO ASTM A307, EXCEPT AS NOTED. ALL STEEL HARDWARE SHALL BE GALVANIZED ACCORDING TO AASHTO M232 UNLESS NOTED OTHERWISE. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.5, BRIDGE WELDING CODE. ALL ELECTRODES SHALL BE E70XX.

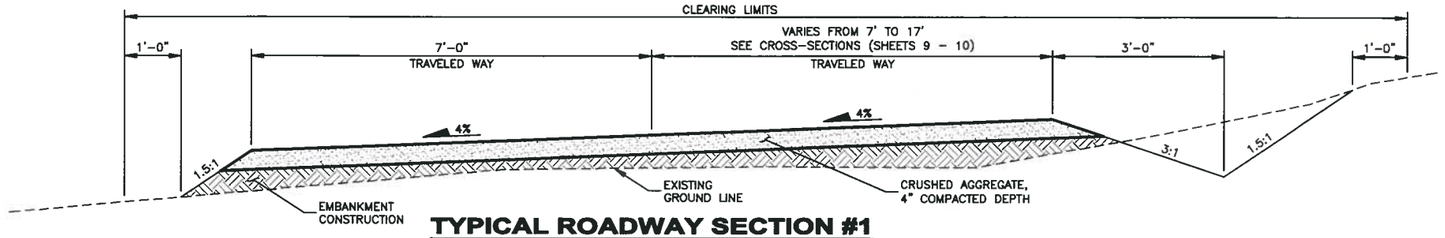
ELASTOMERIC BEARING PADS:
BEARING PADS SHALL BE PLAIN NEOPRENE ELASTOMERIC WITH A 3/4" PAD THICKNESS, 60 DUROMETER, LOW TEMPERATURE, ZONE D.

PRECAST PRESTRESSED CONCRETE SUPERSTRUCTURE ALTERNATIVES:
CONTRACTOR SHALL PROVIDE A PRECAST PRESTRESSED CONCRETE SUPERSTRUCTURE FOR THE GEOMETRY SHOWN ON THE TYPICAL SECTION AND THE CRITERIA SPECIFIED ON THE SUPERSTRUCTURE PLAN SHEET AND THE SPECIAL PROVISIONS. PRETENSIONING IS THE ONLY ACCEPTABLE METHOD OF PRESTRESSING. PRECAST SECTIONS SHALL HAVE INTEGRAL PRECAST END DIAPHRAGMS. CONTRACTOR IS RESPONSIBLE FOR THE FINAL DESIGN OF THE PRECAST PRESTRESSED SECTION, END DIAPHRAGMS, CONNECTIONS TO THE GRADE BEAM, AS WELL AS, LONGITUDINAL GROUT JOINTS AND WELD TIE DETAILS. GUARD ANGLES ALONG THE ENDS OF THE PRECAST SECTIONS ARE REQUIRED AS SHOWN ON THE PLANS. THE FINAL DESIGN AND FULL SHOP DRAWINGS SHALL BE PREPARED BY A LICENSED ENGINEER REGISTERED IN THE STATE OF MONTANA. SEE SECTION 553 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL DESIGN AND MATERIAL SPECIFICATIONS.

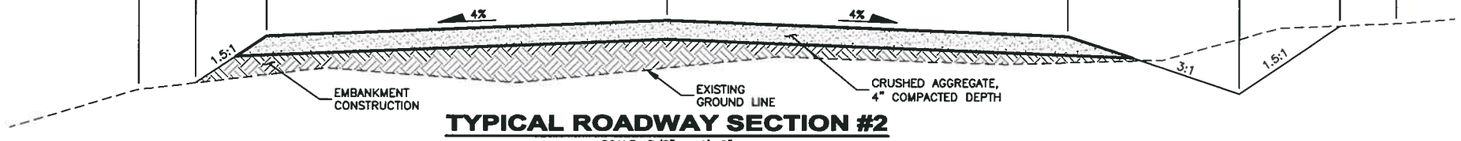
AN ALTERNATE SECTION TO THE PRECAST, PRESTRESSED CONCRETE TRIDECK BEAMS MAY BE PROPOSED (DECK BULB-TEE). THE CONNECTION TO THE SUBSTRUCTURE SHALL BE AS SHOWN. THE PROPOSED ALTERNATE SECTION MAY DEVIATE IN DEPTH BY 8 INCHES AND THE OVERALL WIDTH MUST PROVIDE A 14-FOOT CLEAR OPENING BETWEEN CURBS. THE GRADE BEAM/CAP ELEVATION SHALL BE MAINTAINED WITH ADJUSTMENT MADE IN THE FINISHED GRADE ELEVATION. THE ALTERNATE SECTION MUST PROVIDE A MINIMUM OF 2-FOOT OF FREEBOARD ABOVE THE 100-YEAR FLOOD ELEVATION. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN OF THE END DIAPHRAGM REINFORCEMENT.



TYPICAL BRIDGE SECTION
SCALE: 3/8" = 1'-0"



TYPICAL ROADWAY SECTION #1
SCALE: 3/8" = 1'-0"
STA. 2+00.00 TO 3+89.65



TYPICAL ROADWAY SECTION #2
SCALE: 3/8" = 1'-0"
STA. 4+56.95 TO 5+79.53

ESTIMATED QUANTITIES*

ITEM NO.	DESCRIPTION	METHOD OF MEASUREMENT	UNIT	QUANTITY
15101	MOBILIZATION	LSQ	LS	1
15221	CONSTRUCTION SURVEY AND STAKING	LSQ	LS	1
15713	SOIL EROSION AND POLLUTION CONTROL	LSQ	LS	1
20411	EMBANKMENT CONSTRUCTION	CQ	CY	578
20806	STRUCTURE EXCAVATION	LSQ	LS	1
20807	FOUNDATION FILL	CQ	CY	30
25101	PLACED RIPRAP, CLASS 5	CQ	CY	136
27250	GEOCELL ABUTMENT STABILIZATION, 6 INCH DEPTH	CQ	SY	28
30809	CRUSHED AGGREGATE, COMPACTION METHOD 1	CQ	CY	75
553A01	PRECAST CONCRETE MEMBER, GRADE BEAMS	LSQ	LS	1
55301	PRECAST PRESTRESSED CONCRETE STRUCTURAL MEMBER, TRIDECK BEAMS	CQ	EA	3
55705	TREATED STRUCTURAL TIMBER, GLUED-LAMINATED	CQ	MFBM	1.09
60201	24" DIAMETER CSP CULVERT, 0.064 INCH THICKNESS	CQ	LF	68
62201a	HYDRAULIC EXCAVATOR WITH THUMB	AQ	HR	16
62201b	LARGE DUMP TRUCK	AQ	HR	8
62501	SEEDING, DRY METHOD	CQ	ACRE	0.25
62901	EROSION CONTROL MAT TYPE 3.B	CQ	SY	250
63305	POSTS, WOOD	CQ	LF	36
63306	OBJECT MARKERS, TYPE 3	CQ	EA	4

*INFORMATION ONLY - NOT FOR BIDDING PURPOSES - REFER TO BID SCHEDULE

PREPARED BY:
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FOREST SERVICE
DEPARTMENT OF AGRICULTURE
REGION ONE

DRAWING NO. R2106

GOLDEN ANCHOR BRIDGE
ROAD NO. 4100 - M.P. 0.10
HELENA NATIONAL FOREST

TYPICAL SECTIONS & QUANTITIES

PROJECT: 1-15157 DATE: MAY 26, 2015	NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED: JRW DESIGN CHECKED: JJT	△			
DRAWN: JRW/RME DRAWING CHECKED: JJT	△			

SHEET NO. 2 OF 10

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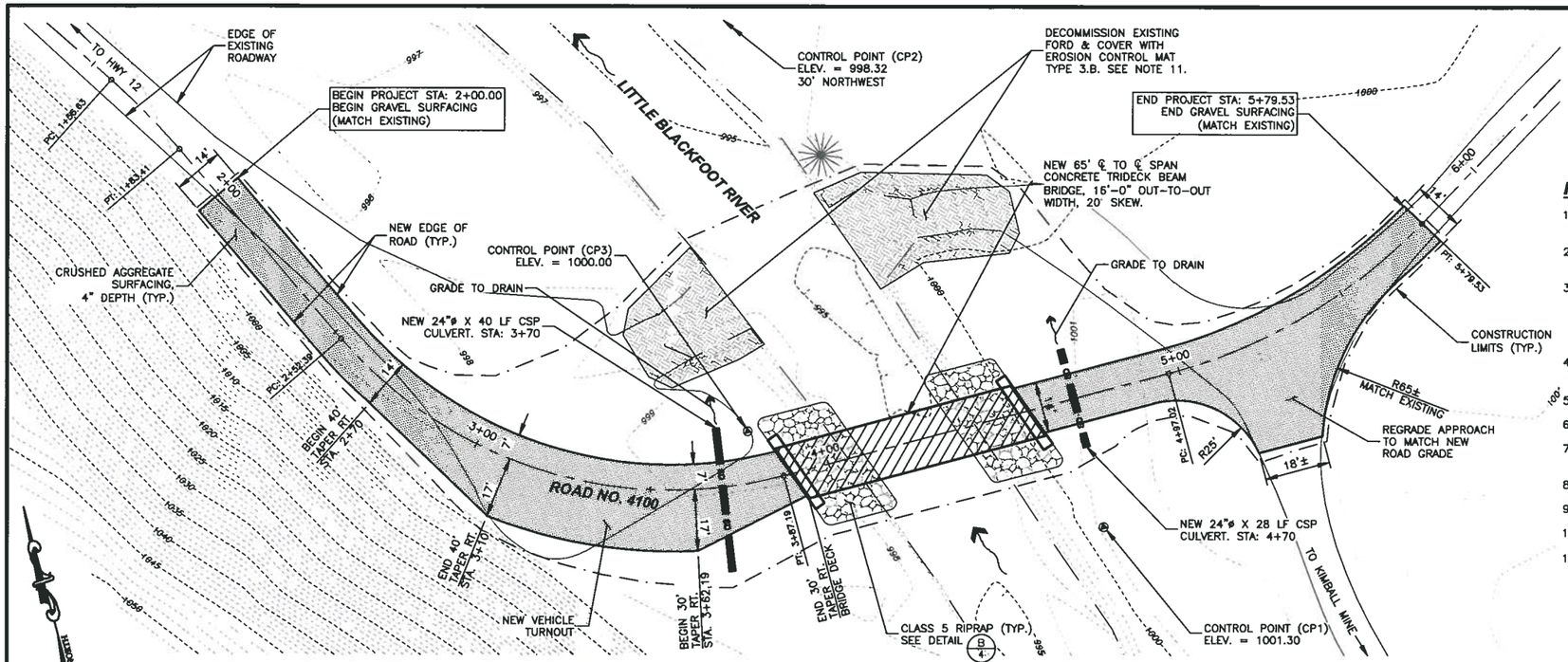
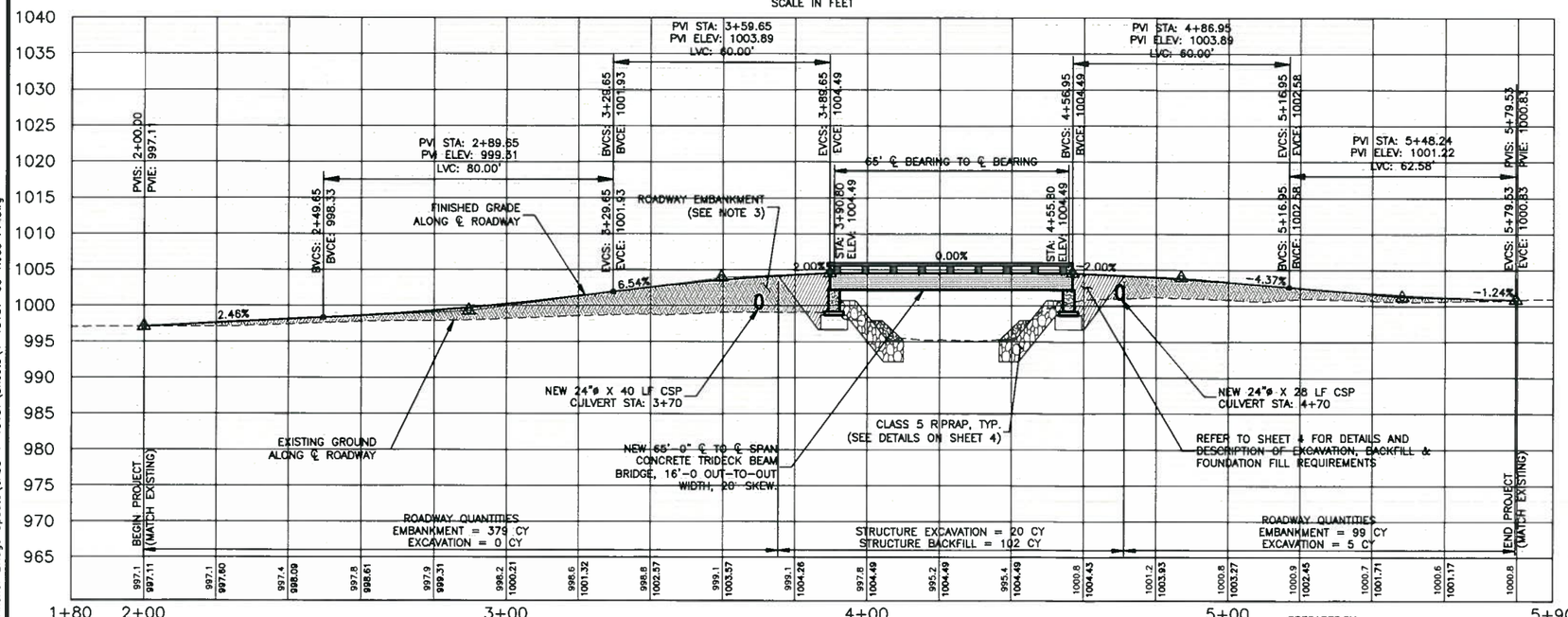


PLAN VIEW OF ROAD NO. 4100 - STA. 1+80 TO STA. 5+90

0 20 40
SCALE IN FEET



PROFILE VIEW OF ROAD NO. 4100 - STA. 1+80 TO STA. 5+90

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 20'

CONTROL POINT COORDINATE TABLE*

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	10053.93	9913.69	1001.30	REBAR W/ CAP
CP2	10238.59	9827.58	998.32	REBAR W/ CAP
CP3	10104.87	9825.58	1000.00	REBAR W/ CAP

*LOCAL COORDINATE SYSTEM UTILIZED

NOTES:

1. SITE SURVEY COMPLETED ON 7/15/2009. FIELD CONDITIONS MAY BE DIFFERENT THAN SURVEYED CONDITIONS. IF SITE DISCREPANCIES EXIST, COORDINATE WITH THE C.O.
2. A SOIL INVESTIGATION CONSISTING OF TWO TEST PITS WAS PERFORMED AT THE SITE. SEE PROJECT DESIGN REPORT FOR TEST PIT LOGS.
3. CONTRACTOR MAY USE SUITABLE ONSITE MATERIAL FROM STRUCTURE EXCAVATION FOR EMBANKMENT CONSTRUCTION. IT IS ESTIMATED THAT 80% OF EXCAVATION MATERIAL WILL BE SUITABLE FOR USE AS EMBANKMENT MATERIAL. ALL EMBANKMENT MATERIAL SHALL BE APPROVED BY THE C.O. BEFORE PLACEMENT. COMPACT EMBANKMENT PER FSSS 204. CONTRACTOR MAY UTILIZE C.O. DESIGNATED SOURCE(S) LOCATED WITHIN 5 MILES OF THE PROJECT SITE FOR ADDITIONAL EMBANKMENT MATERIAL.
4. CONTRACTOR TO DISPOSE OF EXCESS AND/OR UNSUITABLE MATERIAL IN A GOVERNMENT FURNISHED WASTE SITE LOCATED BY THE C.O. WITHIN 2 MILES OF THE PROJECT SITE.
5. PROVIDE A 25' TRANSITION FROM ROADWAY CROWN TO BRIDGE DECK.
6. REFER TO SHEETS 9 – 10 FOR ROADWAY CROSS-SECTIONS.
7. CONTRACTOR MAY USE SUITABLE ON-SITE MATERIAL FOR RIPRAP. THE MATERIAL MUST BE APPROVED BY THE C.O. BEFORE PLACEMENT.
8. CONTRACTOR TO PRESERVE ALL LARGE DIAMETER TREES PER THE DIRECTION OF THE C.O.
9. ESTIMATED QUANTITIES ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR TO VERIFY QUANTITIES.
10. WORK WITHIN THE STREAM CHANNEL SHALL BE COMPLETED BETWEEN JULY 15th AND OCTOBER 1st.
11. FILL IN THE EXISTING FORD WITH ROADWAY EMBANKMENT MATERIAL, APPROXIMATE QUANTITY = 100 CY (PAID UNDER ITEM 20411) SHAPE THE BANKS TO MATCH THAT OF THE EXISTING STREAM. THIS SHAPING WORK WILL BE PAID FOR UNDER ITEMS 62201a & 62201b. INSTALL EROSION CONTROL MAT TYPE 3.B OVER DISTURBED AREA PER THE MANUFACTURERS' RECOMMENDATIONS. DIVERT FLOW WHILE PLACING MATERIAL TO DECREASE SEDIMENTATION AND TO ALLOW MATERIAL TO BE PLACED IN THE DRY.

ROADWAY CENTERLINE COORDINATE STAKING TABLE

DESCRIPTION	NORTHING	EASTING	ELEVATION
STA 2+00.00 BEGIN ROAD WORK	10205.69	9701.24	997.11
STA 2+20.00	10187.66	9709.89	997.60
STA 2+40.00	10169.63	9718.54	998.09
STA 2+52.39 PC	10158.46	9723.90	998.40
STA 2+70.00 BEGIN 40' TAPER RT.	10143.20	9732.65	998.93
STA 2+90.00	10127.63	9745.18	999.74
STA 3+10.00 END 40' TAPER RT.	10114.36	9760.11	1000.74
STA 3+40.00	10099.54	9786.10	1002.57
STA 3+62.19 BEGIN 30' TAPER RT.	10092.97	9807.26	1003.66
STA 3+70.00 CL CULVERT	10091.60	9814.95	1003.95
STA 3+87.19 PT	10090.38	9832.08	1004.44
STA 3+90.80 CL BEARING	10090.38	9835.69	1004.49
STA 4+55.80 CL BEARING	10090.37	9900.69	1004.49
STA 4+70.00 CL CULVERT	10090.37	9914.89	1004.20
STA 4+97.02 PC	10090.37	9941.91	1003.37
STA 5+00.00	10090.40	9944.89	1003.27
STA 5+20.00	10092.13	9964.80	1002.45
STA 5+40.00	10096.49	9984.31	1001.71
STA 5+60.00	10103.40	10003.06	1001.17
STA 5+79.53 PT, END ROAD WORK	10112.50	10020.33	1000.83

DRAWING NO. R2106

GOLDEN ANCHOR BRIDGE

ROAD NO. 4100 - M.P. 0.10
HELENA NATIONAL FOREST

ROAD PLAN & PROFILE

PREPARED BY:
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FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE
REGION ONE

PROJECT: 1-15157 DATE: MAY 26, 2015	NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED: JRW DESIGN CHECKED: JJT	△			
DRAWN: JRW/RME DRAWING CHECKED: JJT	△			

SHEET NO. 3 OF 10

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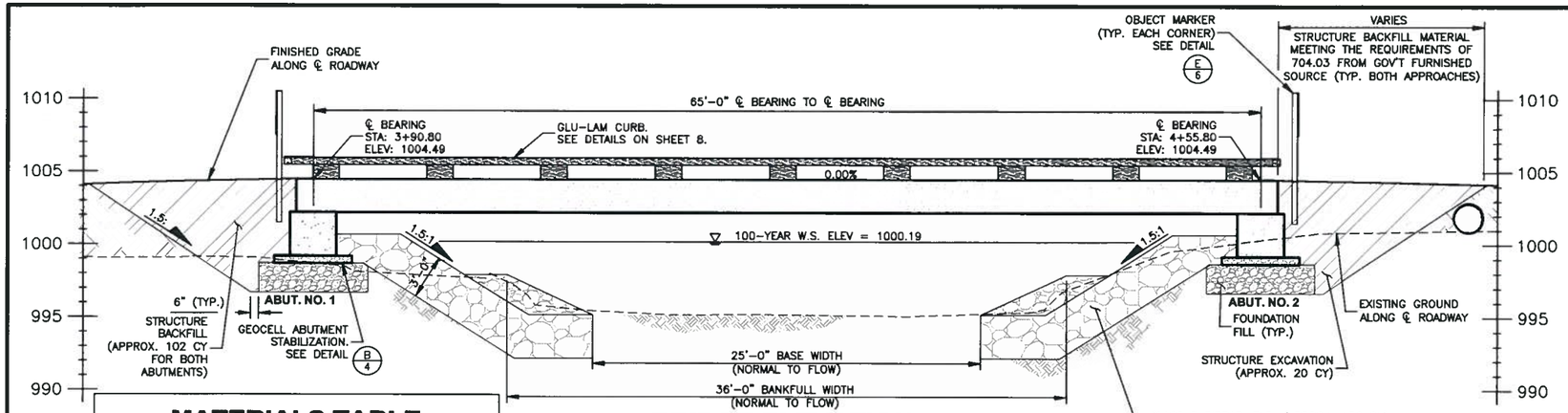


BRIDGE ELEVATION

SHOWN ALONG ROADWAY CL
SCALE: 1" = 10'

MATERIALS TABLE

NAME/BID ITEM	QUANTITY (CY)	MATERIAL SPECIFICATION
ROADWAY EMBANKMENT	478	PLANS
ROADWAY EXCAVATION	5	N/A
FORD EMBANKMENT	100	PLANS
STRUCTURE EXCAVATION	20	N/A
FOUNDATION FILL EXC.	30	N/A
RIPRAP EXCAVATION	103	N/A
STRUCTURE BACKFILL	102	FSSS 704.03

BACKFILL:

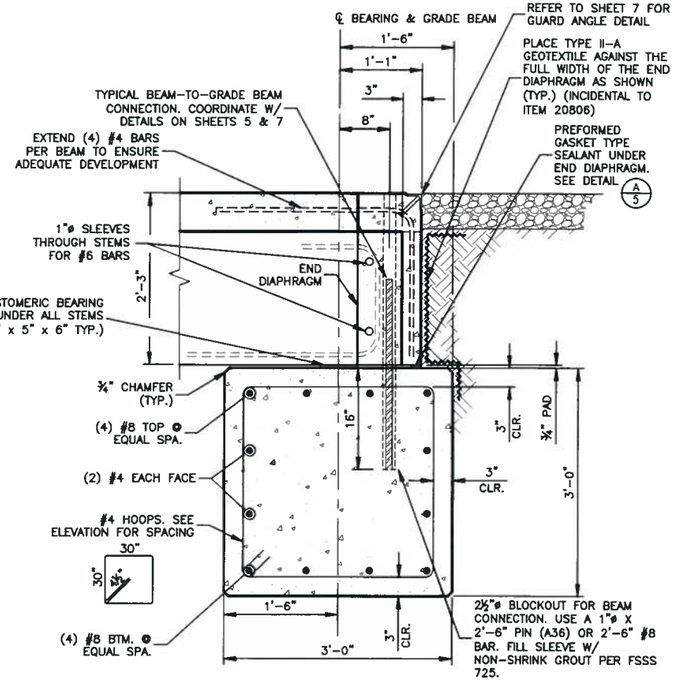
1. BACKFILL MATERIAL BEHIND THE STRUCTURE SHALL BE COMPACTED IN ACCORDANCE WITH FP-03 SECTION 208. THE PROCTOR DENSITY FOR BACKFILL MATERIAL(S) SHALL BE OBTAINED IN ACCORDANCE WITH AASHTO T99, METHOD C. SAMPLING AND TESTING IS REQUIRED PER FP-03 TABLE 208-1.
2. BACKFILL LIMITS SHOWN ARE MINIMUM REQUIREMENTS. ANY BACKFILL OUTSIDE THE SHOWN LIMITS SHALL BE CONSIDERED ROADWAY EMBANKMENT AND MUST MEET THE REQUIREMENTS FOR EMBANKMENT.
3. APPROXIMATELY 80 PERCENT OF THE STRUCTURE EXCAVATION, RIPRAP EXCAVATION & FOUNDATION FILL EXCAVATION MATERIAL IS ANTICIPATED TO BE SUITABLE FOR BACKFILL MATERIAL.
   A. SOME MIXING, SORTING, DRYING AND MOISTURE CONDITIONING MAY BE REQUIRED PRIOR TO BACKFILL.
   B. MUST HAVE APPROVAL FROM C.O. PRIOR TO REUSE.
   C. ALL OTHER BACKFILL MATERIAL SHALL BE SOURCED FROM THE GOVERNMENT FURNISHED LOCATION.

STRUCTURE EXCAVATION NOTES:

1. STRUCTURE EXCAVATION SHALL BE COMPLETED IN ACCORDANCE WITH FP-03, SECTION 208.
2. LIMITS SHOWN ARE MINIMUM EXCAVATION REQUIREMENTS BASED ON GEOTECHNICAL ENGINEER'S DETERMINATION OF OSHA SOIL TYPE C AND THE RELATED OSHA EXCAVATION REQUIREMENTS. DETERMINATION IS BASED ON LIMITED DATA (2 TEST PITS, SEE TEST PIT LOGS IN DESIGN REPORT) AND ACTUAL SITE CONDITIONS & EXCAVATION SOILS MAY VARY.
3. STRUCTURE EXCAVATION QUANTITY SHOWN IS FOR INFORMATION ONLY AND HAS BEEN APPROXIMATED BASED ON THE LIMITS SHOWN. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ACTUAL QUANTITIES BASED ON THEIR OWN EXCAVATION PLAN.
4. CONTRACTOR SHALL SUBMIT EXCAVATION PLAN TO C.O. FOR APPROVAL. PLAN SHALL INCLUDE DRAWINGS AND WRITTEN OUTLINE ILLUSTRATING AND DESCRIBING PROPOSED EXCAVATION LIMITS, METHODS, EQUIPMENT, LOCATION OF STOCKPILES, AND ESTIMATED QUANTITIES AND COMPLY WITH OSHA EXCAVATION SOIL TYPING AND REQUIREMENTS. CHANGES TO THE EXCAVATION LIMITS SHOWN ON THIS SHEET FOR CONTRACTOR'S DE-WATERING METHODS OR OTHER CONTRACTOR'S CONVENIENCE MUST BE SHOWN ON THE CONTRACTORS' PLAN AND ARE THE RESPONSIBILITY OF THE CONTRACTOR. THIS WORK IS INCIDENTAL THE CONTRACT.

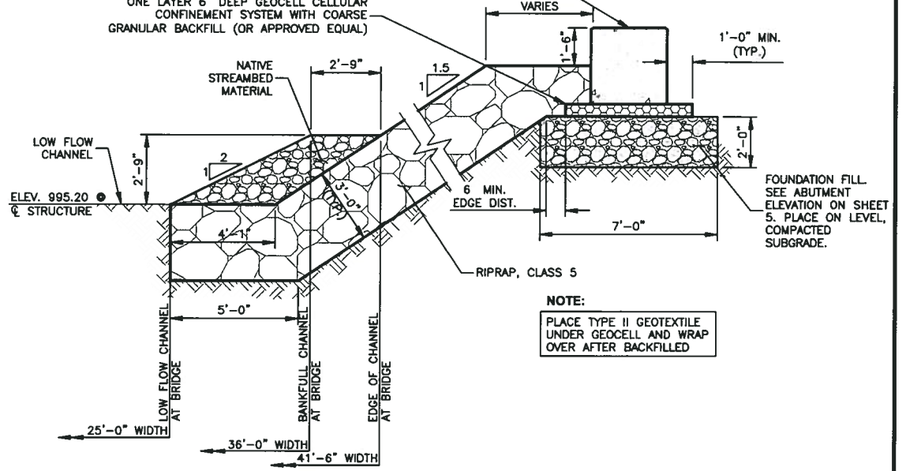
GEOCELL:

1. INSTALL GEOCELL PER FSSS 272.06. PLACE GEOCELL ON LEVEL COMPACTED FOUNDATION FILL. CONTRACTOR SHALL HOLD GEOCELL IN PLACE TO THE LINES AND GRADES SHOWN ON THE DRAWING WITH SUITABLE SIDE FORMS (STRETCHER FRAMES).
2. BACKFILL GEOCELL WITH COURSE GRANULAR BACKFILL PER FSSS 272 AND 703.
3. PLACE TYPE II-A GEOTEXTILE UNDER GEOCELL AND RIPRAP. WRAP GEOTEXTILE OVER TOP OF GEOCELL AFTER IT IS BACKFILLED (INCIDENTAL TO ITEMS 27250 & 25101).



C/4 PRECAST CONCRETE GRADE BEAM & CONNECTION

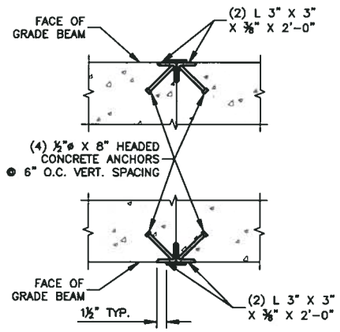
SCALE: 1/2" = 1'-0"



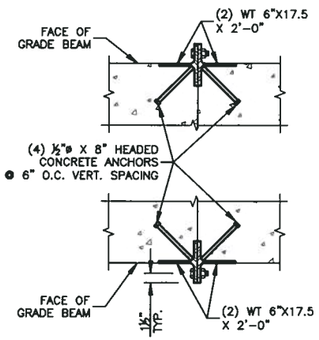
NOTE:
PLACE TYPE II GEOTEXTILE UNDER GEOCELL AND WRAP OVER AFTER BACKFILLED

B/4 RIPRAP & FOUNDATION FILL DETAIL

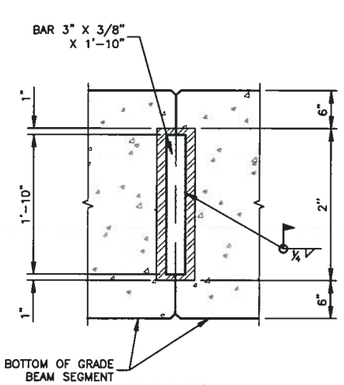
NOT TO SCALE



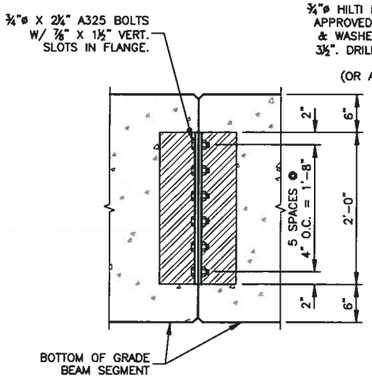
PLAN SECTION



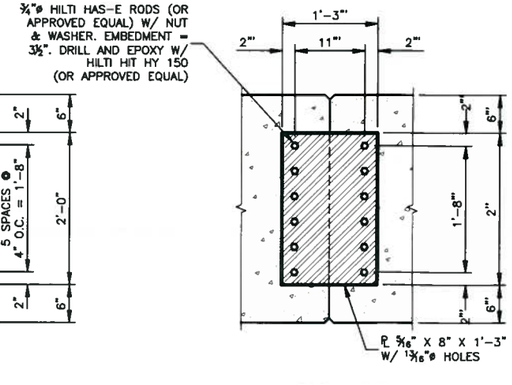
PLAN SECTION



ELEVATION
FIELD WELD ALTERNATIVE



ELEVATION
FIELD BOLT ALTERNATIVE



ELEVATION
POST-INSTALLED ANCHOR PLATE ALTERNATIVE

A/4 OPTIONAL GRADE BEAM FIELD SPLICE DETAILS

SCALE: 1/2" = 1'-0"

DRAWING NO. R2106

GOLDEN ANCHOR BRIDGE

ROAD NO. 4100 - M.P. 0.10
HELENA NATIONAL FOREST

BRIDGE ELEVATION & ABUTMENT DETAILS

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FOREST SERVICE
USDA DEPARTMENT OF AGRICULTURE
REGION ONE

PROJECT: 1-15157	DATE: MAY 26, 2015	NO.	REVISION DESCRIPTION	BY	DATE
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SHEET NO. 4 OF 10

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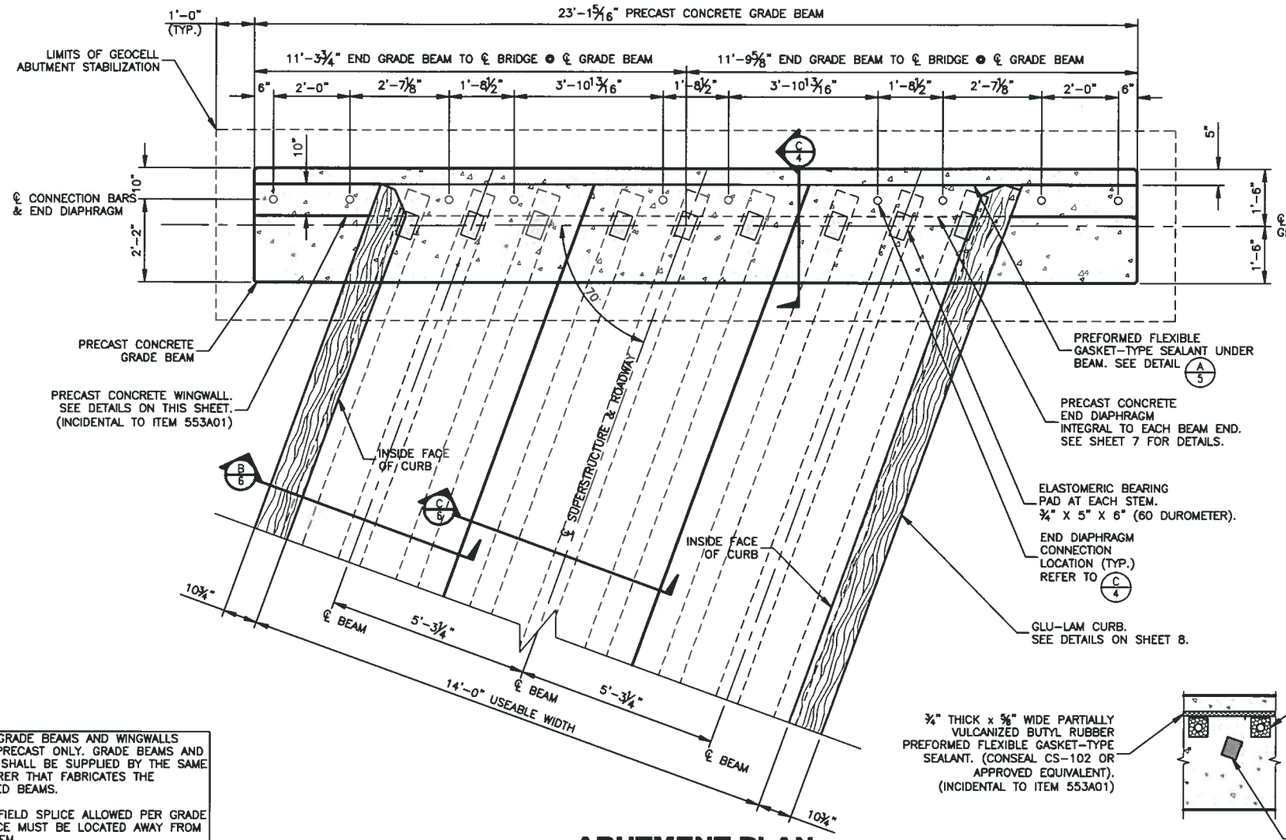
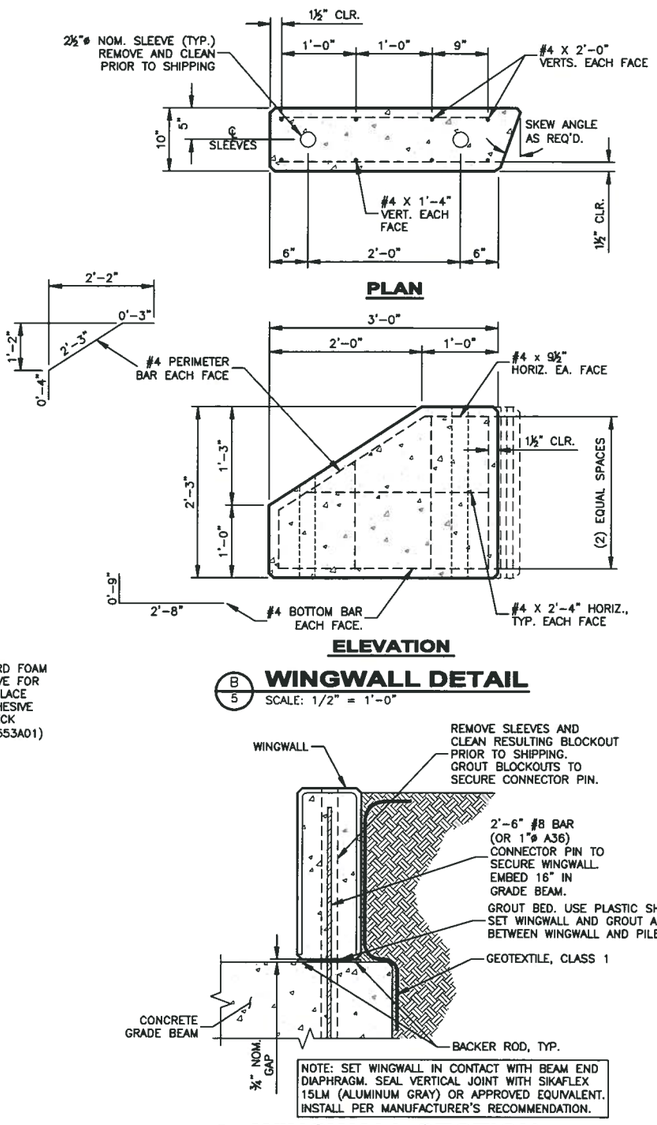


ABUTMENT PLAN
SCALE: 1/4" = 1'-0"

NOTES:

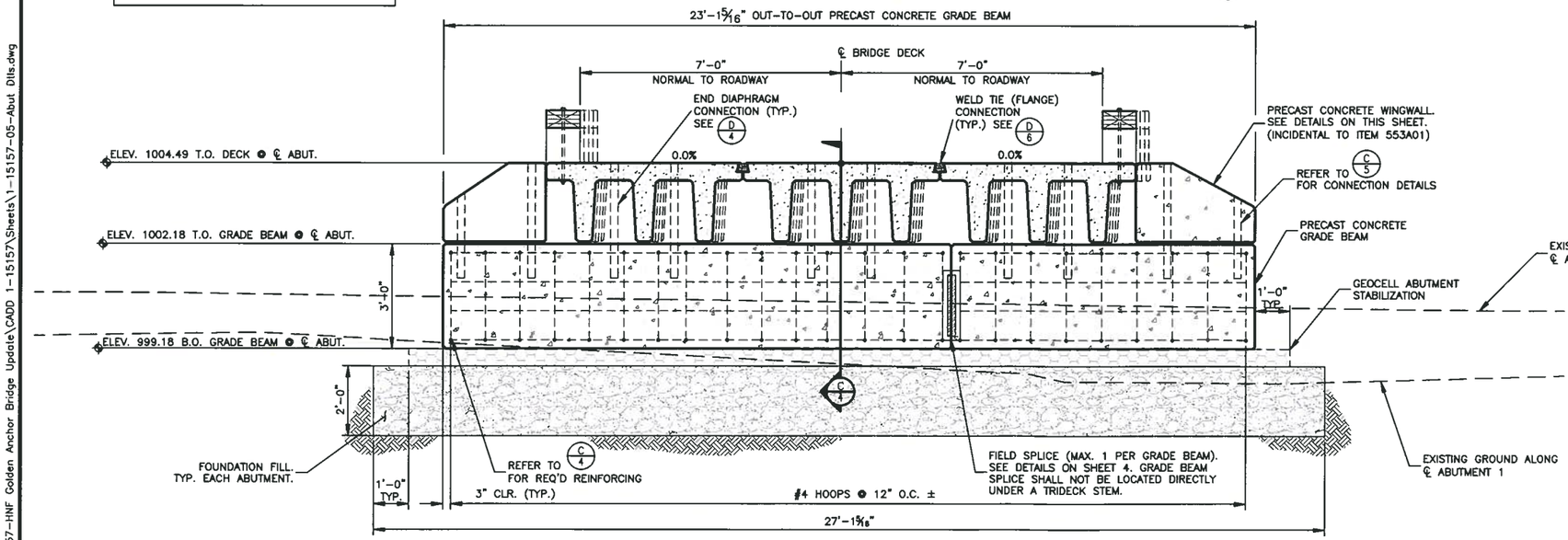
1. CONCRETE GRADE BEAMS AND WINGWALLS SHALL BE PRECAST ONLY. GRADE BEAMS AND WINGWALLS SHALL BE SUPPLIED BY THE SAME MANUFACTURER THAT FABRICATES THE PRESTRESSED BEAMS.
2. ONLY ONE FIELD SPLICE ALLOWED PER GRADE BEAM. SPLICE MUST BE LOCATED AWAY FROM TRIDECK STEM.
3. THE PRESTRESSED BEAM SUPPLIER SHALL VERIFY AND COORDINATE THE DIMENSIONS OF THE TRIDECK BEAM CONNECTIONS.

A/5 SEALANT DETAIL
NOT TO SCALE



B/5 WINGWALL DETAIL
SCALE: 1/2" = 1'-0"

C/5 WINGWALL SECTION
NOT TO SCALE



ABUTMENT ELEVATION
SCALE: 1/4" = 1'-0"
SHOWN ALONG GRADE BEAM CENTERLINE, SKEWED TO ROADWAY

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FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE
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DRAWING NO. R2106

GOLDEN ANCHOR BRIDGE
ROAD NO. 4100 - M.P. 0.10
HELENA NATIONAL FOREST

ABUTMENT PLAN & ELEVATION

PROJECT: 1-15157	DATE: MAY 26, 2015	NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED: JRW	DESIGN CHECKED: JJT	△			
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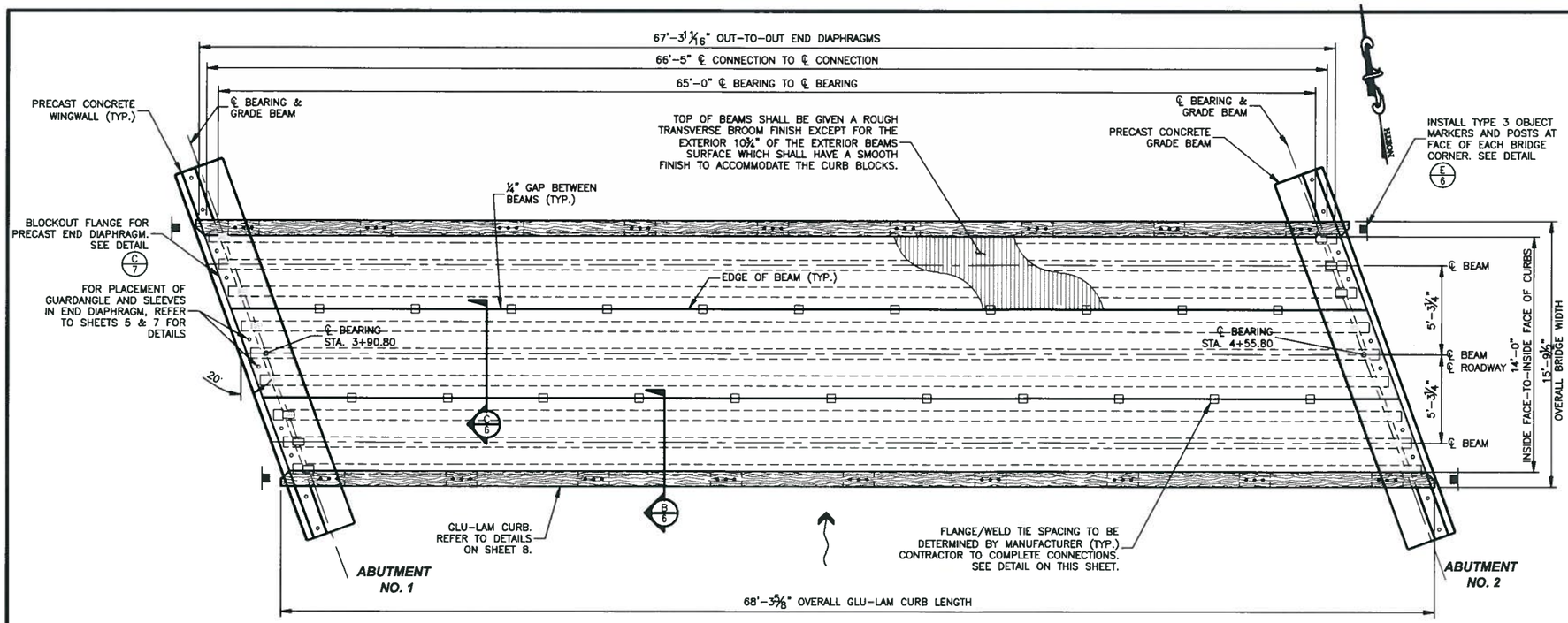
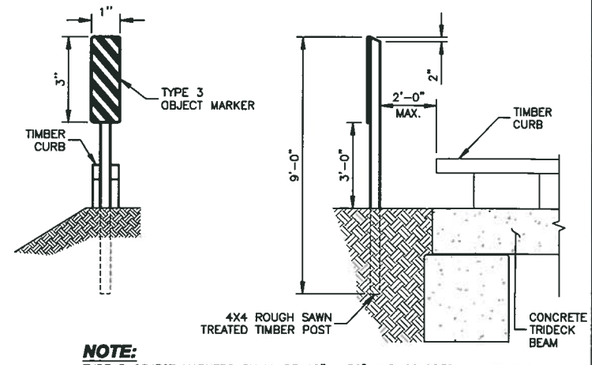
SHEET NO. 5 OF 10

F:\1-15157-HNF Golden Anchor Bridge Update\CADD 1-15157\Sheets\1-15157-05-Abut Dlts.dwg

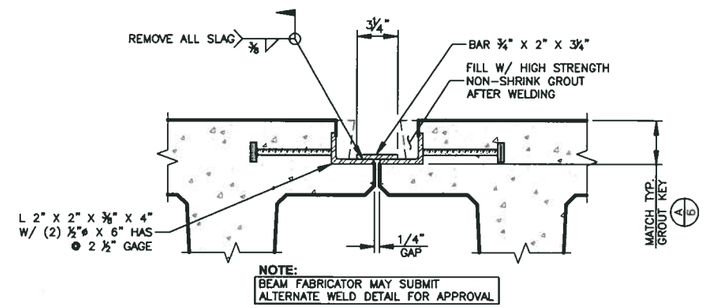


SUPERSTRUCTURE PLAN
SCALE: 1/8" = 1'-0"



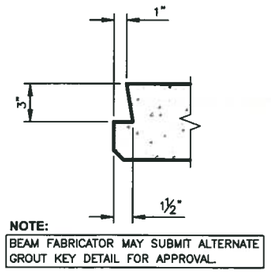
NOTE:
TYPE 3 OBJECT MARKERS SHALL BE 12" x 36" AND COLORED YELLOW AND BLACK. MATERIAL SHALL MEET MUTCD OM-3L OR OM-3R SPECIFICATIONS. FASTEN TO POST W/ (2) 1/4"ø MACHINE BOLTS W/ WASHERS. FIELD DRILL BOLT HOLES. INSTALL POSTS SUCH THAT THE INSIDE EDGE OF THE REFLECTORIZED PANEL IS IN LINE WITH THE INSIDE EDGE OF THE CURB.

E/6 TYPE 3 OBJECT MARKER DETAIL
NOT TO SCALE



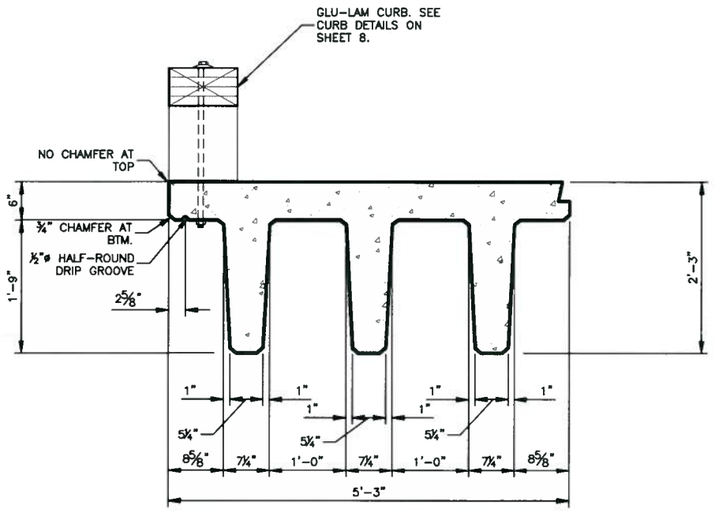
NOTE:
BEAM FABRICATOR MAY SUBMIT ALTERNATE WELD DETAIL FOR APPROVAL

D/6 WELD TIE DETAIL
SCALE 1" = 1'-0"

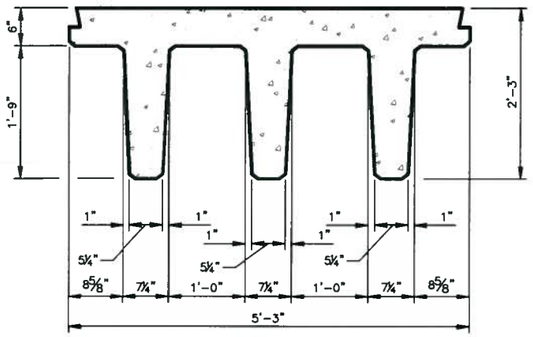


NOTE:
BEAM FABRICATOR MAY SUBMIT ALTERNATE GROUT KEY DETAIL FOR APPROVAL.

A/6 TYPICAL GROUT KEY
SCALE: 1" = 1'-0"



B/6 EXTERIOR BEAM & CURB DETAIL
SCALE: 1/2" = 1'-0"



C/6 INTERIOR BEAM DETAIL
SCALE: 1/2" = 1'-0"

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REGION ONE

DRAWING NO. R2106

GOLDEN ANCHOR BRIDGE
ROAD NO. 4100 - M.P. 0.10
HELENA NATIONAL FOREST

SUPERSTRUCTURE PLAN & DETAILS

PROJECT: 1-15157	DATE: MAY 26, 2015	NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED: JRW	DESIGN CHECKED: JJT	△			
DRAWN: JRW/RME	DRAWING CHECKED: JJT	△			

SHEET NO. 6 OF 10

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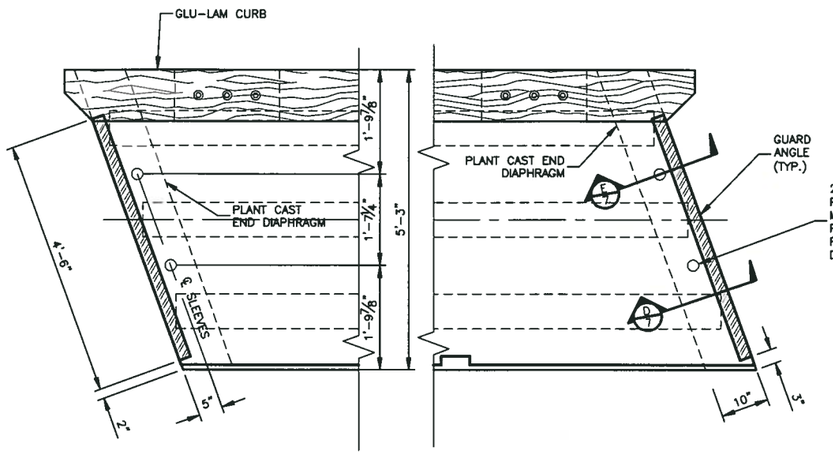
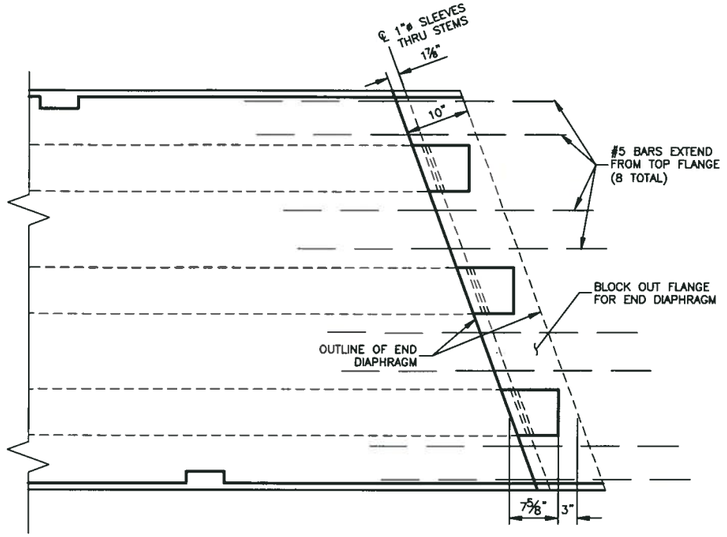
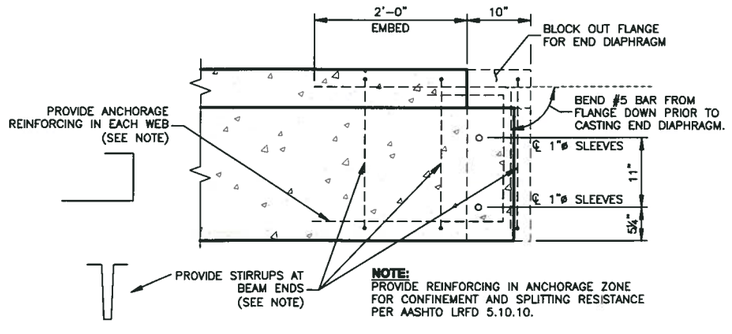


A/9 **TYPICAL EXTERIOR BEAM END TREATMENT**
SCALE: 3/8" = 1'-0"

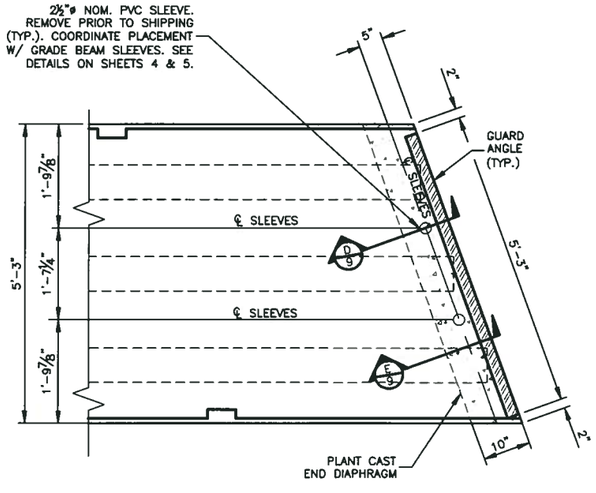


PLAN

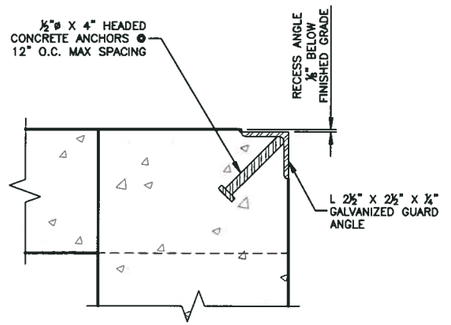


ELEVATION

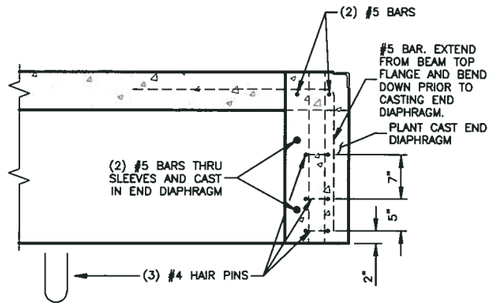
C/9 **TYPICAL INTERIOR BEAM END REINFORCEMENT**
SCALE: 1/2" = 1'-0"



B/9 **TYPICAL INTERIOR BEAM END TREATMENT**
SCALE: 3/8" = 1'-0"



D/9 **GUARD ANGLE DETAIL**
SCALE: 1 1/2" = 1'-0"



E/9 **DIAPHRAGM REINFORCEMENT SECTION**
SCALE: 1/2" = 1'-0"

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FOREST SERVICE
USDA DEPARTMENT OF AGRICULTURE
REGION ONE

DRAWING NO. R2106

GOLDEN ANCHOR BRIDGE

ROAD NO. 4100 - M.P. 0.10
HELENA NATIONAL FOREST

BEAM END REINFORCEMENT DETAILS

PROJECT: 1-15157	DATE: MAY 26, 2015	NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED: JRW	DESIGN CHECKED: JJT	△			
DRAWN: JRW/RME	DRAWING CHECKED: JJT	△			

SHEET NO. 7 OF 10

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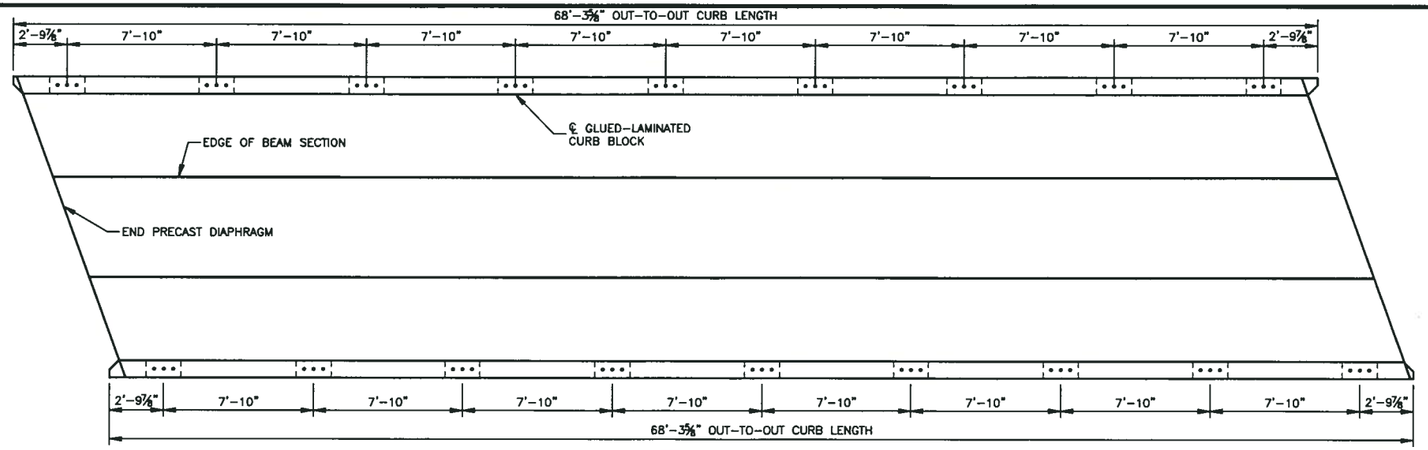
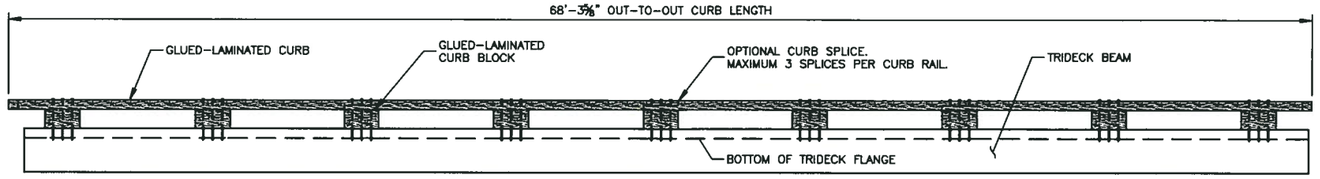
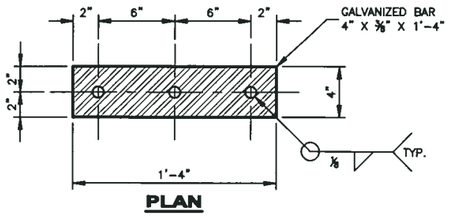


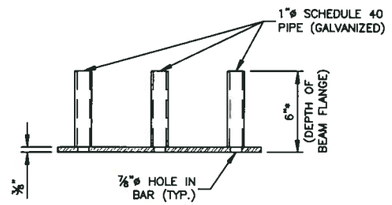
CURB PLAN
SCALE: 1/8" = 1'-0"



CURB ELEVATION
SCALE: 1/8" = 1'-0"



PLAN



ELEVATION

CURB ANCHOR NOTES:
1. GALVANIZE RAIL CURB ASSEMBLY AFTER WELDING SLEEVES.
2. CURB ANCHOR IS INCIDENTAL TO ITEM 55301.
3. ASTERISK (*) DIMENSIONS TO BE DETERMINED BY FABRICATOR.

B/8 CURB ANCHOR DETAIL
SCALE: 1" = 1'-0"

TIMBER CURB NOTES:

GLUED-LAMINATES:
GLUED-LAMINATED MEMBERS SHALL BE OF COASTAL REGION DOUGLAS-FIR CONFORMING TO THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) 117-2004, AND SHALL BE MANUFACTURED FOR WET CONDITION USE AND INDUSTRIAL APPEARANCE USING A PHENOL-RESOCINOL RESIN TYPE ADHESIVE THROUGHOUT.

MEMBER	COMBINATION SYMBOL
CURB MEMBERS	3, 4, OR 5

GLUED-LAMINATED MEMBERS FABRICATED FROM INLAND DOUGLAS-FIR LUMBER SHALL NOT BE USED ON THIS PROJECT.

TREATMENT:
INCISE AND TREAT ALL LUMBER AFTER FABRICATION IN ACCORDANCE WITH AWPA U1 USING PENTACHLOROPHENOL OR COPPER NAPHTHENATE (CuN) IN HEAVY OIL (TYPE A SOLVENT). TREAT TO USE CATEGORY UC4B. COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF WWPI'S "BEST MANAGEMENT PRACTICES FOR THE USE OF TREATED WOOD IN AQUATIC ENVIRONMENTS".

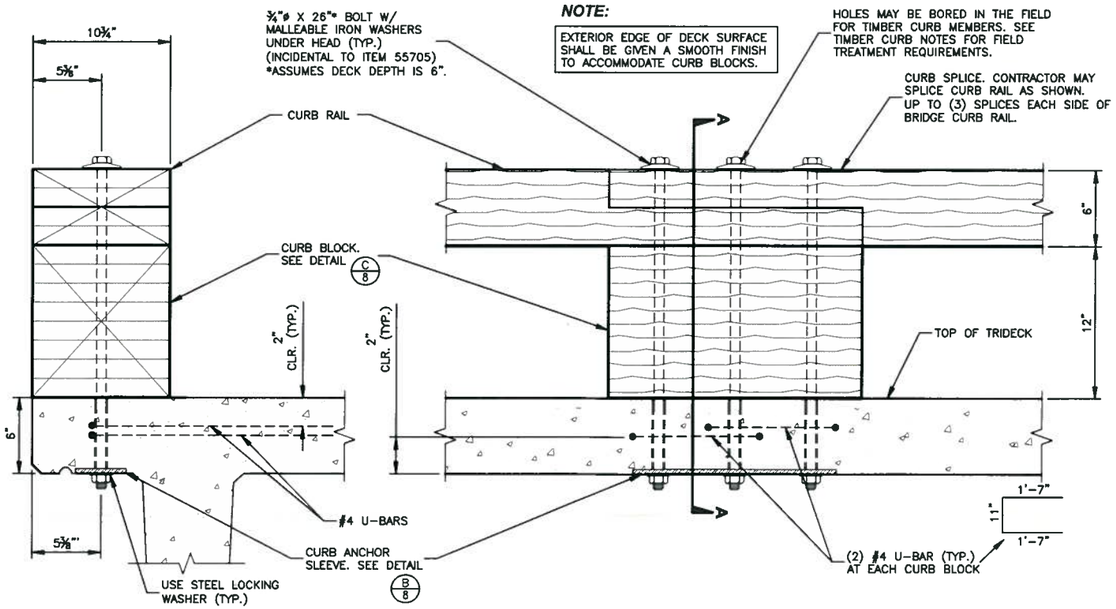
FIELD TREATMENT:
PENTACHLOROPHENOL OR COPPER NAPHTHENATE MEETING AWPA P-8 WITH TYPE A SOLVENT MEETING AWPA P-9 SHALL BE FURNISHED FOR FIELD TREATING OF WOOD. ALL ABRASIONS, FIELD DRILLED HOLES, AND FIELD CUTS APPROVED BY THE CONTRACTING OFFICER SHALL BE CAREFULLY TRIMMED AND GIVEN THREE BRUSH COATS OF THE FIELD PRESERVATIVE TREATMENT SOLUTION.

INSPECTION AND CERTIFICATION:
THE FOLLOWING COMPLIANCE CERTIFICATES SHALL BE FURNISHED UPON DELIVERY:

A) SUPPLIER CERTIFICATION, FROM A WWPA OR WCLIB APPROVED SUPPLIER, THAT ALL WOOD MATERIAL MEET REQUIREMENTS AS TO SPECIES AND GRADE.
B) CERTIFICATION OF PRESERVATIVE, PENETRATION IN INCHES, AND RETENTION IN POUNDS PER CUBIC FOOT (ASSAY METHOD) BY EITHER A QUALIFIED TESTING AND INSPECTION AGENCY OR SUPPLIER CERTIFICATION. SUPPLIER CERTIFICATION REQUIRES EACH SOLID PIECE TO BE STAMPED OR BRANDED WITH THE ALSC QUALITY MARK.
C) CERTIFICATION FROM A QUALIFIED INSPECTION AND TESTING AGENCY INDICATING CONFORMANCE OF ALL GLUED-LAMINATED MEMBERS WITH AITC 117-2004.
D) SUPPLIER CERTIFICATION THAT ALL TREATED WOOD MATERIALS WERE TREATED IN ACCORDANCE WITH AND MEET THE REQUIREMENTS OF WWPI'S "BEST MANAGEMENT PRACTICES FOR THE USE OF TREATED WOOD IN AQUATIC ENVIRONMENTS".

FABRICATION:
SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL STEEL AND TREATED TIMBER ELEMENTS. SHOW ALL DIMENSIONS, FABRICATION DETAILS, MATERIAL SPECIFICATIONS, AND TREATMENT SPECIFICATIONS ON THE SHOP DRAWINGS FOR ALL CUT OR BORED STEEL AND TIMBER.

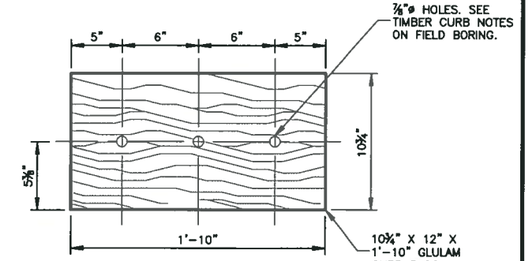
FIELD BORING REQUIREMENTS:
BORE HOLES FOR MACHINE BOLTS WITH A BIT 1/8 INCH LARGER THAN THE BOLT DIAMETER.



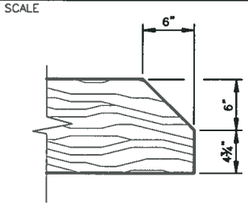
SECTION A-A

ELEVATION VIEW

A/8 CURB CONNECTION DETAIL
NOT TO SCALE



C/8 CURB BLOCK DETAIL
NOT TO SCALE



D/8 CURB END TREATMENT DETAIL
NOT TO SCALE

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ROAD NO. 4100 - M.P. 0.10
HELENA NATIONAL FOREST

TIMBER CURB DETAILS

PROJECT: 1-15157	DATE: MAY 26, 2015	NO.	REVISION DESCRIPTION	BY	DATE
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DRAWN: JRW/RME	DRAWING CHECKED: JJT				

SHEET NO. 8 OF 10

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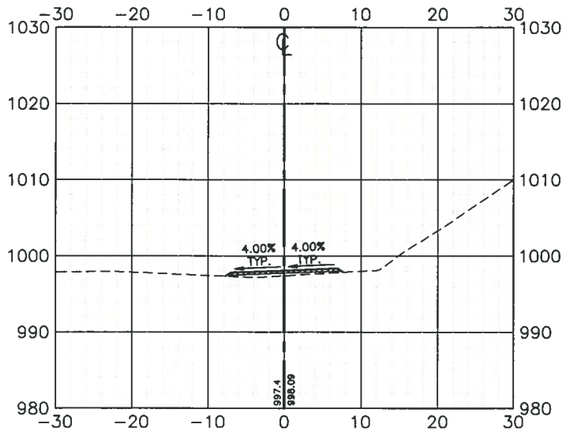

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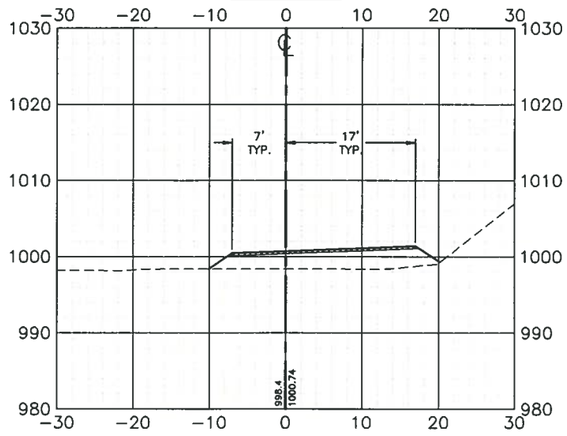

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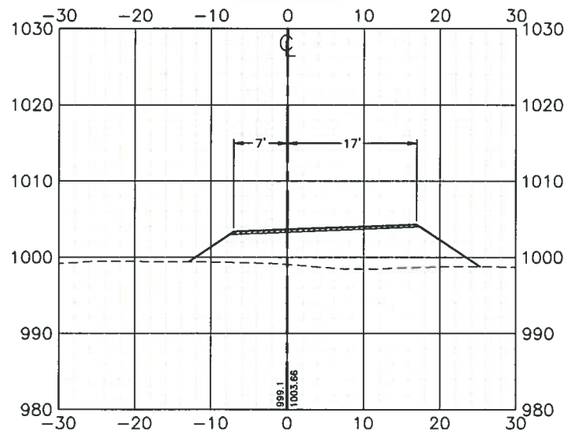

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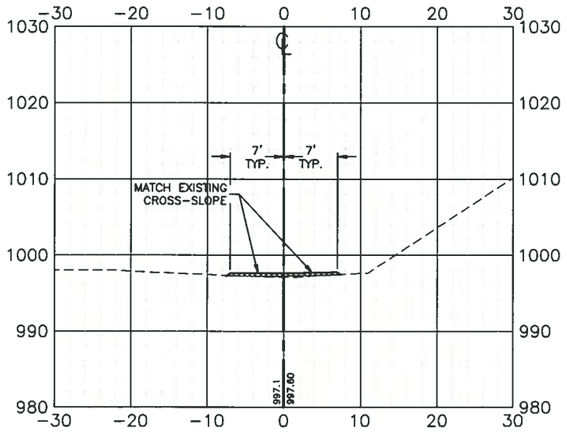

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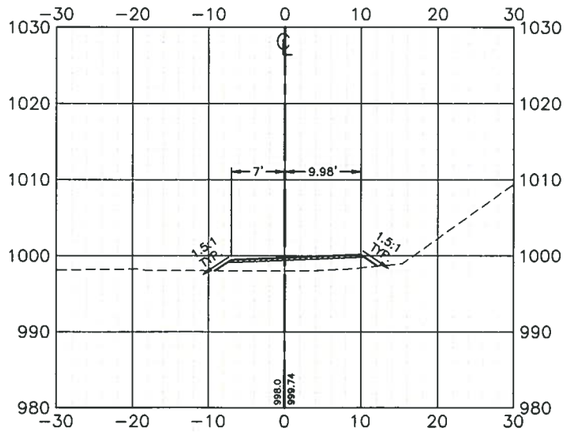

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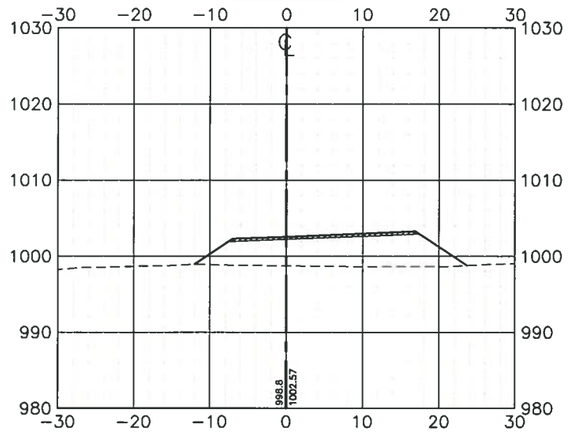

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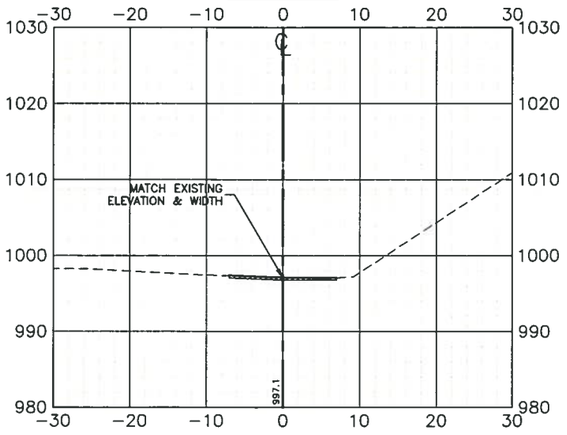

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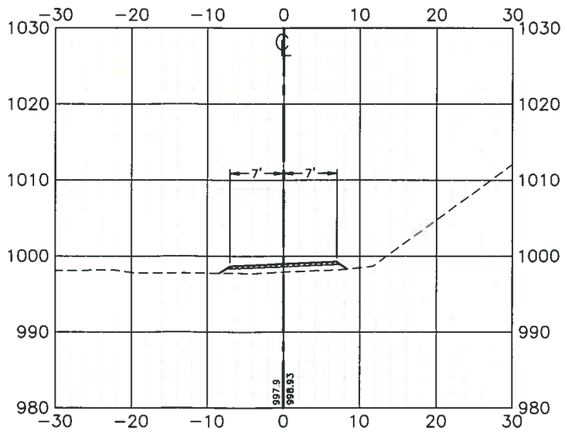

0 10 20
SCALE IN FEET

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DRAWING NO. R2106

GOLDEN ANCHOR BRIDGE
ROAD NO. 4100 - M.P. 0.10
HELENA NATIONAL FOREST

ROADWAY CROSS-SECTIONS

PROJECT: 1-15157 DATE: MAY 26, 2015	NO.	REVISION DESCRIPTION	BY	DATE	SHEET NO. 9 OF 10
DESIGNED: JRW DESIGN CHECKED: JJT	△				
DRAWN: JRW/RME DRAWING CHECKED: JJT	△				

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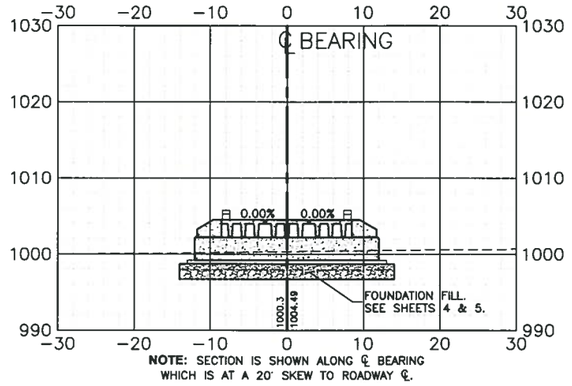
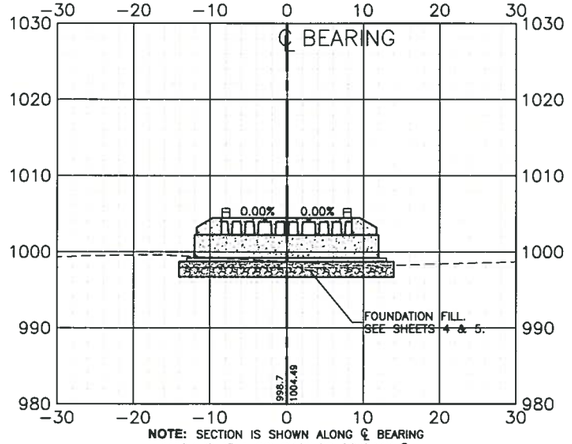
4+55.80



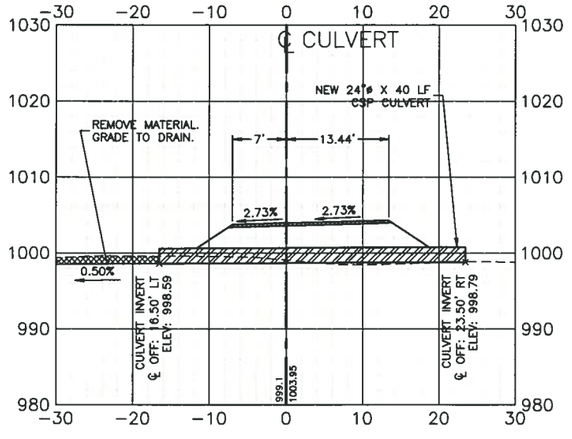
NOTE: SECTION IS SHOWN ALONG ℄ BEARING WHICH IS AT A 20° SKEW TO ROADWAY ℄.

3+90.80



NOTE: SECTION IS SHOWN ALONG ℄ BEARING WHICH IS AT A 20° SKEW TO ROADWAY ℄.

3+70.00



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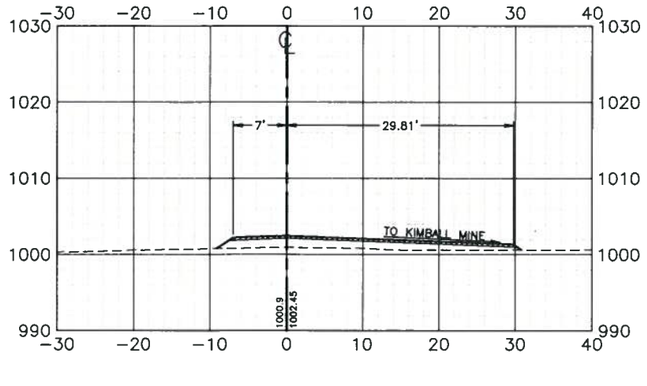

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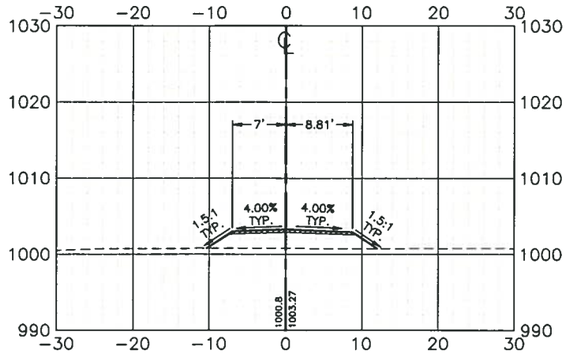

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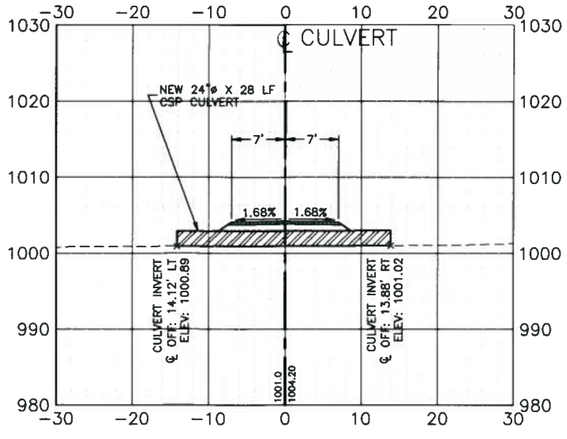

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SCALE IN FEET

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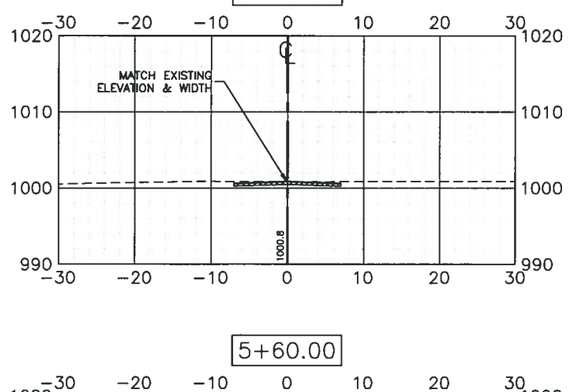

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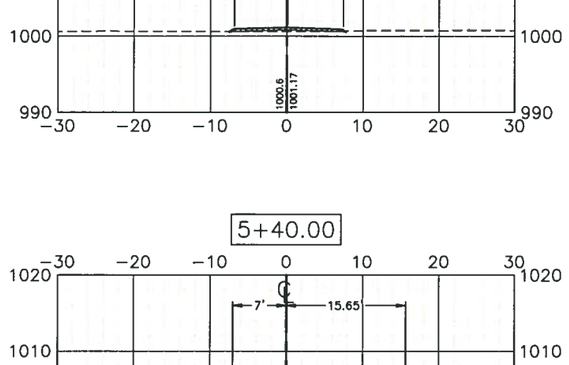

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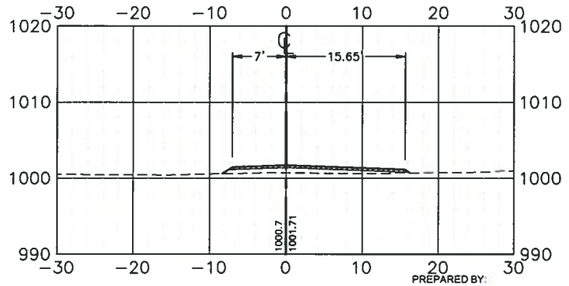

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SHEET NO. 10 OF 10

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